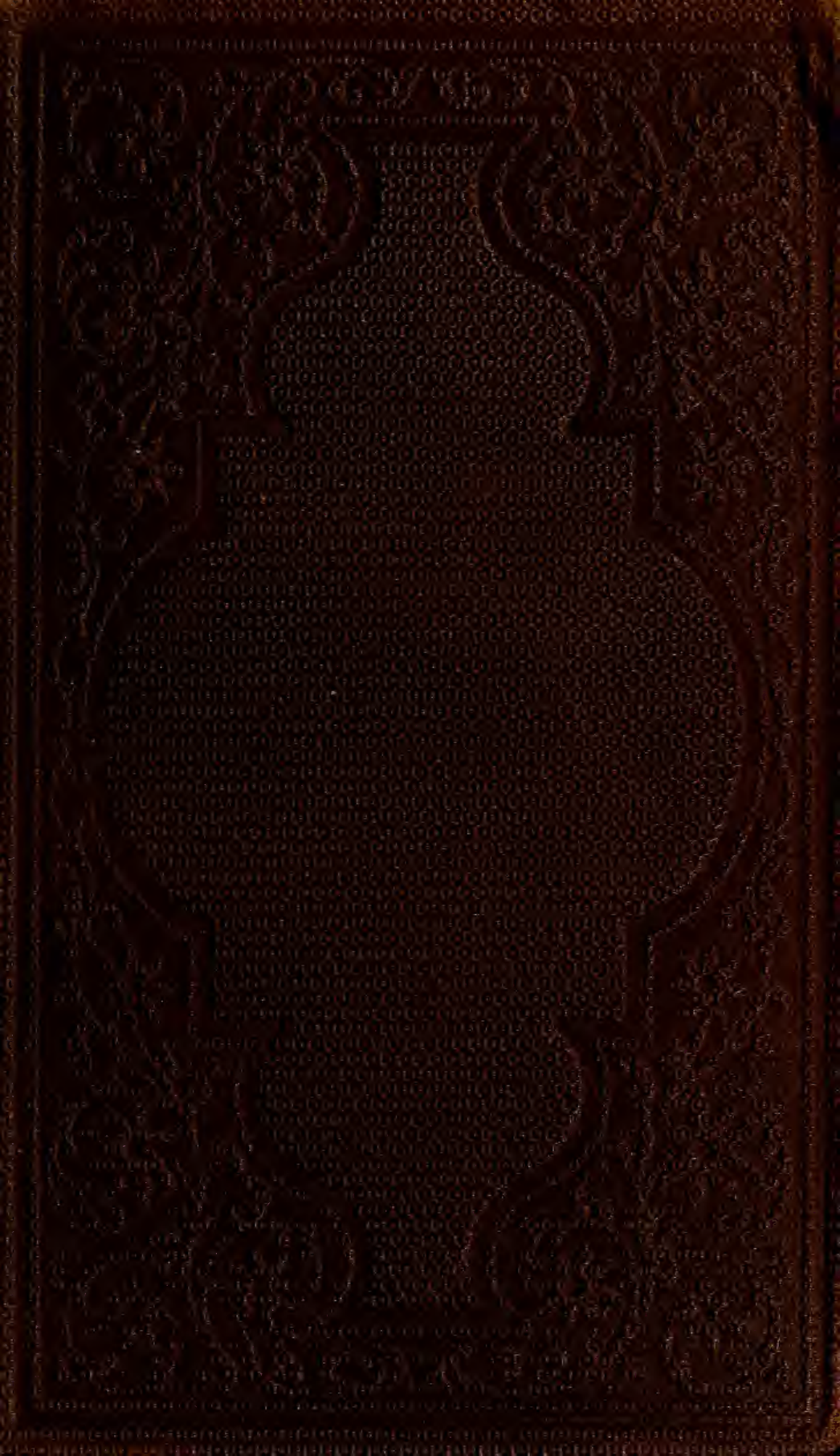

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THE MOTHER

AND

HER OFFSPRING.

BY STEPHEN TRACY, M.D.,

FORMERLY A MISSIONARY PHYSICIAN OF THE A. B. C. F. M. TO THE CHINESE; PROFESSOR OF THE THEORY AND PRACTICE OF MEDICINE IN THE N. E. F. M. COLLEGE, BOSTON; FELLOW OF THE MASSACHUSETTS MEDICAL SOCIETY; MEMBER OF THE AMERICAN MEDICAL ASSOCIATION, ETC., ETC., ETC.

"A babe in a house is a well-spring of pleasure."
"A delight, but redolent of care."

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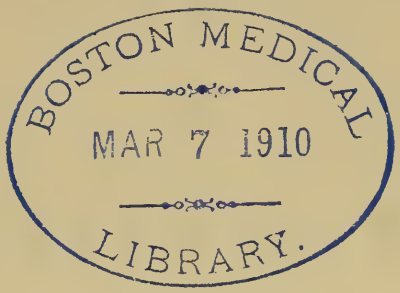

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TO

THE YOUNG MOTHERS OF THE UNITED STATES

THIS VOLUME

Is most respectfully Dedicated

BY THEIR SINCERE FRIEND,

THE AUTHOR.

PREFACE.

For more than nineteen years the writer has been engaged in the study and practice of the medical profession.

Unusual circumstances have given him a most familiar, social, as well as professional acquaintance with a large number of young women, who, soon after marriage, had removed far away from their parental homes, and had thus been deprived of those necessary instructions from their elder and more experienced female friends which are enjoyed by those more favorably situated. The natural result has been a far more intimate and perfect knowledge of their peculiar wants and feelings than could otherwise have been obtained.

Young married women are usually fully aware that many of the duties and responsibilities incident to their new social relations are of the *first* importance, and are also oftentimes painfully conscious of the most entire ignorance in regard to many important subjects connected with them.

Many of the subjects, which very justly excite in their minds the deepest interest, are of such a nature

that instruction can be received upon them in no way so pleasantly as by reading, and, at the same time, are so closely connected with matters of physiological science, that it has long been the opinion of the writer that great good could be done to the individuals thus situated, as well as to the cause of humanity and sound learning, by the preparation of a *truthful* medical work adapted to their peculiar circumstances and wants.

The following pages are the result of an effort to that end; and it is confidently believed that they will be found, by this class of persons, *full* of matter that is to them both new and intensely interesting, and also of sound, reliable, practical instruction — instruction that no married woman should be without.

It has not been the writer's object to advocate any new or old theory, -ism, or -pathy, nor to teach his readers to become quack dosers of themselves and their families in sickness or in health, as is too often done: on the contrary, his aim is to give such instruction to mothers as shall enable them, by proper and judicious management, to *secure* to themselves and their offspring the greatest possible exemption from pain and disease, and the possession of the most robust and vigorous health of which their respective constitutions will admit.

In order for this, he has here presented such instructions as are in accordance with those well-ascertained

and established truths and principles which are familiar to all regularly-educated, well-informed, and right-minded members of the medical profession.

If the fourth and fifth chapters are not as entirely practical, they will be found not less interesting than other portions of the work. The science of Embryology is one of special and peculiar interest to every reflecting mind.

In the preparation of the work, the knowledge obtained by fifteen years of parental experience and the care of six children, has not been useless.

The necessity for a work of this kind, so far from having been diminished, has, of late years, been greatly increased by the introduction of the study of human anatomy and physiology into our schools; and especially by the character of many popular lectures that have been delivered, and of many publications upon these subjects that have been extensively circulated; for, although they may contain many correct statements of scientific truths and valuable hygienic instructions, they also contain *many* ERRORS and FALSITIES—easily detected, it is true, by the educated and truly scientific physician, but not so by the general reader. Very many of these errors are of the most specious character and injurious tendency, endangering not only the morals of society, but also the health, and lives even, of those who receive them as truths.

It may not be inappropriate to add that this book had its beginning in a series of familiar letters, prepared in the midst of many interruptions from professional duties. It is now, with the original style unchanged, presented to the public. May it find its way to thousands of "new homes," there to bless not only the present, but rising generation.

PREFACE

TO

THE THIRD EDITION.

The demand so soon made for a third edition affords gratifying assurance to the author that his labors have not been entirely unavailing. In the hopes of rendering his little manual still more acceptable and *useful*, that part of it treating of diseases has been greatly enlarged. Many more diseases, both of pregnancy and of children, have been, he hopes, so clearly described as to lead to their early recognition by the careful reader, and the courses then to be pursued briefly pointed out.

A chapter on the *prevention of scrofula* and some kindred diseases, and another on some of the *accidents* most likely to occur to infants and young children, have been added.

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INTRODUCTION.

LETTER TO A NEAR RELATIVE.

My dear Mrs. B——,

I send you a new book. Please accept it as a sure token of my affectionate regard and heartfelt interest in your welfare and happiness.

The subjects upon which it treats are of no inferior importance.

You can not fail to feel that the new relations upon which you have entered devolve upon you cares and duties of the greatest moment. Not only is your own future happiness inseparably connected with your knowledge of those duties and responsibilities, and your ability and disposition to perform them, but henceforth the happiness, success, and usefulness of at least one other person, and that person the one whom, of all others, you most love, are in a great measure dependent upon the manner in which you act your part in the drama of social life.

Mankind are designed to be, and are constituted by their beneficent Creator, social beings; and not only so, but by His wise appointment, also, the presence of

both sexes is rendered absolutely necessary for the formation of the highest and happiest state of society.

To each sex are allotted their respective duties and spheres of action, which can not be exchanged or essentially varied, having been rendered, by the very laws of nature, immutable.

To prevent either neglect or confusion in the performance of their respective duties, the Deity has imposed such distinctions of organization upon the sexes as defies alienation or exchange in the discharge of the peculiar obligations of each. However powerful the influence of education and modes of life may be upon the human frame, they are incapable of effecting so great changes upon their respective constitutions as to deprive them of their distinctive characteristics.

It is not my intention, however, at this time, to make any extended remarks upon this subject. I can only mention, and that very briefly, some of the anatomical and physiological peculiarities of the female system.

From the other sex the female has *distinguishing characteristics* in the inferiority of her stature and the symmetry and beauty of her form. Her whole osseous fabric is more delicate, and less extended. The bones of her head are thinner, smaller, and more pliant. The chest is more elevated, on account of the ribs passing more directly around the body; these bones are also broader, shorter, and flatter than in man. Similar dif-

ferences are observed in the general character of all the other bones, as well as in their connections with each other. Their heads, or extremities, are less enlarged, and their connections more salient, and consequently less prominent, and the joints better concealed.

The muscular system, too, is different. Its fibres possess greater fineness and sensibility. Hence their muscles are quicker, but less permanent in their contractions.

The nervous system has also its peculiar properties. The nerves themselves are smaller, and of a more delicate structure. They are endowed with greater sensibility, and, of course, are liable to more frequent and stronger impressions from external agents or mental influences; and thus the nervous, as well as the muscular system, contributes to render her more liable to spasmodic and convulsive diseases, and more obnoxious to inordinate stimulation.

In the sanguiferous system we find the peculiarities of the muscular and nervous systems combined. The circulation is carried on with more rapidity, but with less force; the arteries are smaller and more irritable, and, for this reason, are more easily urged into increased activity, and less easily appeased after having been inordinately excited. The veins are thinner, and offer less resistance to any given distending force, and hence are more disposed to become diseased and enlarged, particularly upon the lower limbs.

The cellular system is more abundant, more flexible, and better supplied with oily and watery substances.

From its abundance, especially around the larger joints and foldings of the body, a roundness and beauty is given to parts which in man are angular, or perhaps ill-formed and unsightly.

The cutaneous system has its peculiarities, and becomes almost of itself an object of beauty. Its texture is infinitely finer, more elastic, more highly polished, and more decidedly transparent. Owing to its fineness, it shows to the greatest possible advantage the arterial terminations which so beautifully assemble upon the cheeks. Its sensibility is much greater, and its sympathies, if not more extensive, are certainly more vivid and intense.

The physical characteristics above enumerated, together with many others not named, clearly indicate that the duties to which woman is called by the great Author of all good are also of a peculiar character, and very different from those imposed upon the other sex; that she has her appropriate sphere of action in the social economy of life.

Nor are the *mental characteristics* of the two sexes less peculiar and distinctive than are their physical. Women are not expected to defend the liberties of their country by engaging in bloody conflicts with those that would oppress her; or to enter the halls of legislation, to debate upon the principles and details of the laws

by which they, their husbands, and their children shall be governed; or to sit upon the judicial bench, to witness the fierce rage and listen to the harsh language of angry disputants; or in the capacity of attorneys, to contend in behalf of clients against their adversaries. Neither is it their appropriate place to appear as public teachers of morals or religion before promiscuous assemblies of both sexes. Nor is the female mind well adapted to the labors, duties, responsibilities, and perplexities of commercial life, or for conducting the manufacturing or agricultural interests of the country.

Attention to all these matters, however, is essential to the well-being and prosperity of any people, and in some one of them will your husband be more immediately engaged; while upon you will devolve duties, cares, and labors of a very different nature, but of a character not less important, interesting, influential, and responsible.

Far be it from me to say one word derogatory to the character of the female sex, or to intimate that they are inferior in mental endowments to the other sex. All that can rightly be said, and all that I would intimate, is, that in them certain qualities of mind are less fully developed than the same qualities are in the other sex. On the other hand, they have certain most admirable and most excellent qualities far more fully and beautifully developed: so that I should regard any

charge of general inferiority brought against them as altogether and entirely unjust.

Surely no sane mind would think of claiming for the rough and sturdy oak superiority to the graceful elm, or to the symmetrical, the beautiful maple, with its delicious sweet, and its delightfully refreshing shade.

The *youth* looks forward with hopeful and aspiring anticipations to the time when he shall be released from the peculiar obligations resting upon him during the time of his minority, and engage for himself in the duties and responsibilities of adult age. But no sooner has he left the parental home of his childhood, the guiding counsel of his father, and the fond embraces of his mother, than he is made to feel most sensibly, and often most keenly, that he is *alone* in this hopeful, joyful, happy, busy, tiresome, fatiguing, perplexing, and selfish world.

He goes forth to his labors in the morning with cheerfulness and pleasure; he labors with his might till the declining sun gives notice that the toils of the day should cease, and he returns wearied and fatigued to his rest. Again and again he rises to his labors in the morning, and returns to his room at the close of day. The wants of his physical nature are all supplied, but his observation of mankind has convinced him that all seek their own—that there is not one in all his circle of acquaintances whose interests are identical with his. Even his

mother's love, which in former years, perhaps, so entirely satisfied the instinctive desires of his soul, now fails to do so; and he feels that he can no longer with propriety expect that paternal care which has heretofore been extended with so much kindness and solicitude toward him. Thus, though perhaps prospered in all his efforts, he is made to feel more and more that he is now "all alone"—that there is none to rejoice as he rejoices in all his sources of enjoyment—that there is not one who so sympathizes with him as to fill the instinctive desires of his heart. He feels that the toils and labors—the perplexities and anxieties incident to the proper performance of his duties, would all be rendered comparatively easy, and that he could most cheerfully encounter them all, if he had *one* to partake with *him* of the rewards they bring; but to endure all for himself alone is beyond endurance.

It is under these circumstances that he feels as he never before felt, that "it is not good for man to be alone." He wants a home, and he wants a friend *there*—a friend to enjoy with him the rewards of his toil.

When, perhaps, through the depressing influence of his own anxieties and labors, it appears to him that all the world frown upon him, he wants some one to cheer him with words and acts of comfort and of hope. When all the world appears to him supremely selfish, fickle, and unstable, he wants to feel that he has at least one

friend—one bosom friend, who will ever remain true and unwavering.

He marries; and his expectations are realized, and more than realized. His labors are now sweetened with the thought that he is laboring not for himself alone, but for one he loves as he loves himself, and that his feelings of interest, affection, and love are fully and entirely reciprocated by her. The perplexities and anxieties of his calling are all lightened. He feels that it is a pleasure to endure them, because they result in giving him the means of contributing to *her* happiness. He no longer feels that he is "alone," with none to care for him, and none to love him. He feels that he has a home—"a place to come to," retired from the busy toils of life; a home rendered pleasant, not only by the care taken of all his affairs, by its neatness and order, and by the provisions prepared by her skillful hand, for his refreshment, ease, and comfort, as he returns from the toils, fatigues, and perplexities of the day, but doubly so by her cheerful presence, and the happy smile with which she welcomes his return. And not only so, but, in times of anxiety and doubt, he finds in her a ready, sympathizing friend, and often an invaluable adviser. He has "an *help-meet* for him."

In due time, and to their mutual joy, *children* are added to the new home; and now devolve upon *her cares and duties*, second in importance to none ever performed by either sex.

And upon the manner in which she discharges these will, in a very great measure, depend not only the degree of health, strength, and vigor of body which shall be enjoyed by her children during the whole period of this life; but they may also be expected to receive from her impressions and a bias, which shall seriously affect, if not absolutely determine, the intellectual, moral, and religious characteristics which shall be developed, and which shall be sustained and manifested by them during their entire future existence.

But, alas! too often has this gratification been preceded, accompanied, or followed by *results more or less distressing*. Too often has it been my unhappiness to witness the departure of the fresh glow of joyous health from the fair countenance of the (in other respects) happy mother; too often have I seen her for months, and even years, suffering under a state of ill health and general debility, or her life rendered miserable by some local affection more or less severe and protracted. And too often have I seen the pledge of their mutual love laboring under a diseased state of the stomach, bowels, or other portions of the system, which carried it to an untimely grave, or rendered it restless, fretful, and unhappy for months or years, and from the deleterious effects of which it would never entirely recover.

Too often have I been called to witness afflictions like these, resulting more or less directly from causes that might have been, and would have been entirely

avoided, had the mother been made acquainted with the *phenomena to be expected and the duties* devolving upon her during this most interesting period of her life.

Too often, I say, have I seen such unhappy results, not to feel constrained to attempt a work that I should have rejoiced to have seen done by more competent hands.

My *object* is to afford such information as will enable you to secure both to yourself and your infants the greatest possible immunity from the ills so frequently experienced. For not only is the health of the mother most intimately connected with her management of herself during the period of pregnancy, and the subsequent one of nursing, but the *health* and *happiness* of her offspring, both during its childhood and also in after life, is more closely dependent upon the course pursued by her, and the management it receives at her hands, during the first stages of infancy, than is usually supposed.

It must not be expected, however, that I shall speak of *all* the phenomena that may occur in any given case, or of all the duties that may be connected with it. This were too great a work. I shall only mention the most important ones, and in that way hope to lay before you the general principles which are at all times to be your guides, and by which you may be able to decide as to the merits or demerits of any asserted

facts or duties that may be urged upon your attention by those who have gained most, if not all their knowledge of them, from what may be called popular traditions, many of which are entirely without foundation, and others of no importance whatever, or absolutely erroneous and mischievous.

Do not understand me, however, to intimate that ill health is a necessary accompaniment of the maternal relation. It is *very far* from being so. Child-bearing is ordinarily entirely compatible with the enjoyment of the most perfect health. Indeed, it has been positively ascertained that those women who become the mothers of families of children usually enjoy even better health and longer life than those who do not. This is particularly manifest after the age of thirty-five or forty years is past.

So far, therefore, as the matter of physical health alone is concerned, those *married* women who intentionally contravene the ordinary allotments of Providence pursue a very short-sighted policy, and they often work upon themselves an irreparable injury.

But this is not all. She who, through a distrust of God's providential care, or for the sake of avoiding a mother's cares and responsibilities, or from any other *unworthy* or *selfish** motive whatever, pursues such a

* Of course there are instances of serious bodily deformity or disease to which these remarks are not applicable; the motive in such cases being neither *selfish*, nor otherwise unworthy.

course, inflicts upon herself, as well as upon others, a great moral evil. Drying up within her own heart, as she does, the very fountain of benevolence, love, joy, peace, and all those kindlier sentiments which every one, and especially every member of her sex, should constantly cultivate with assiduous care, she neither enjoys the purest happiness herself, nor contributes, as she ought, to the happiness and well-being of her husband or of society. God does not often permit infringements upon his laws to be long practiced with impunity.

On the other hand, she who pursues the opposite—the only *rational and* SAFE course, ever exercising a proper degree of confidence in the wisdom of her Creator, and reliance upon his promises and upon his providential care, pursues the true road to health, long life, and happiness. Paradoxical as it may oftentimes appear to the inexperienced, she finds, as her infants are successively placed in her arms, that in each child she has a continual

"Well-spring of pleasure."

Thus, while with cheerful, hopeful, happy heart she fulfills her allotted sphere in life, blessing all around her, and being (under God) *herself the source of* LIFE, *light, and peace to others, she is herself* DOUBLY *blessed.*

Yours sincerely,

STEPHEN TRACY.

Andover, Mass., 1853.

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THE

MOTHER AND HER OFFSPRING.

CHAPTER I.

INDICATIONS OF PREGNANCY.

It is well known that the womb often exercises an important influence over the system of the female. In most women this influence is occasionally, during their married life, more or less conspicuously manifested; hence it is that some, on becoming *enceinte* for the first time, seem to be endowed with new life and vigor; they enjoy better health, and are in better spirits, and become more fleshy than ever before during their whole lives. This is not unfrequently the case with those of a delicate constitution and somewhat feeble health. Others go through the various stages of pregnancy without experiencing any marked change in the general state of the system; while others still suffer more or less severely from a variety of harassing and painful symptoms. But all, or nearly all, upon becoming pregnant, or very soon after, experience changes from their previous condition more or less diversified, nu-

merous, and important. Very many of these, having been found present so frequently at such times, are properly regarded as pointing with some degree of certainty to this state, and have, on that account, received the designation of "SIGNS OF PREGNANCY." Thus the toothache is sometimes said to be "a sign," because some women always experience it soon after becoming pregnant; and you may have heard them say, as I have in repeated instances, "Each child has cost me a tooth!"

With some, a hordeolum, or what is more commonly called a stye, is "a sign," because they never fail to have one upon one of their eyelids near the commencement of each pregnancy.

Ephelis, or the large dark brown freckle which stains the forehead, the brow, the cheek, and often the whole neck, is "a sign," which invariably points out this condition in some women.

But these, together with a great number of others of like character, although they afford to some women (who have, in repeated instances, found them to accompany this state in themselves) perfectly satisfactory evidence that they are again pregnant, are not such as can be relied upon by other persons with any degree of certainty. I will not, therefore, trouble you with any further relations concerning those of less importance, but confine the remarks I have to make upon this subject to a few which may justly command the

most confidence, as being the most reliable, and least likely to mislead you.

If you are in perfectly good health, and your stomach and other digestive organs are properly performing all their appropriate functions, it is most probable that the first intimation you will have of the existence of pregnancy will be a FAILURE IN THE RECURRENCE OF THE MENSES at the expected period. Very likely you may have many of the feelings which you ordinarily experience at such times; but, if so, they will probably pass off without any flow, or you may not have any sensations at all to remind you of the return of the month. I say this will probably be the case; but it is by no means certain, inasmuch as, in some instances, women discover no change in regard to these periods for two, or three, or more months; and I have known instances where they have continued to recur regularly during the whole term of gestation. Cases, also, are recorded of individuals who never menstruated except while pregnant, but who did so regularly during the whole period of their pregnancies.

In some instances young women have conceived before they have become "regular," or even once menstruated. Morgagni says: "I was acquainted with a maiden of noble family who married before menstrua-

tion took place, though the menses had been expected for some years; nevertheless, she became exceeding fruitful. We were the less surprised at this, for the same thing had happened to her mother."

Frank attended a patient who gave birth to three children without ever having been "unwell."

Sir E. Moore relates the case of a young woman who married before she was seventeen, and, never having menstruated, became pregnant, and four months after delivery was pregnant a second time. The same thing occurred again, and, after a third pregnancy, she menstruated for the first time. Zachias mentions that he attended a patient who used to menstruate regularly, but who never conceived until the discharge had been suppressed for three or four months previously.

In other instances, conception has taken place late in life, after the cessation of the menses, as the following cases will illustrate:

"In September, 1834," says Dr. B., "I was called to the assistance of a female in labor, in her 49th year. She had not been pregnant for twelve years, and supposed she had ceased to menstruate two years previous to that time. She did well, and never menstruated afterward."

Mrs. B., aged 39. Has been married eighteen years, commenced to be unwell very early in life. Has had three children, the last seven years since. Is now again pregnant, her menses having left her sixteen

weeks prior to conception; before which she had been very irregular, and supposed they had ceased forever.

It so happens, too, that just before the change of life takes place, there appears in the constitution of some women a great disposition to pregnancy, so that many who have ceased to bear children for years, or who have been hitherto barren through the whole of their lives, at this time, to the surprise of themselves and their friends, become pregnant.

"A woman came to me one morning," says Dr. Gooch, "with a note from a medical man, containing the following statement: The patient's age was 42. She had been married twenty-two years without ever being pregnant. About seven months ago she ceased to menstruate; a few months afterward, the abdomen began to enlarge, and was now nearly equal to that of a full pregnancy. For several months the practitioner had been using various means for reducing the tumor, but in vain!!! I examined the case, pronounced her pregnant, and seven weeks afterward she brought forth a child at full time."

Dr. Montgomery says: "A lady in her 43d year, who was married to her present husband twenty years ago, remained without promise of offspring until within the last few months; but having missed her turns in September last, and finding her size increasing, I was requested to see her in January, when she exhibited evident symptoms of pregnancy. She was subsequently

delivered of a healthy boy, after a natural labor of about four hours."

In May, 1816, Mrs. Ashley, of Frisby, England, at the age of 54 years was delivered of two female children.

Mrs. G., in Vermont, the mother of eight children, the youngest of which was about eight years, brought forth twin boys at the age of 46.

Mrs. B., of Ohio, was married early in life. Had three children, and then ceased for fifteen years, when she again, at the age of 43, became pregnant, and was delivered of a daughter; and two years after was again pregnant, but aborted.

The succession of an estate was disputed in France because the mother was 58 years old when the child was alleged to have been born. The decision was in favor of the fact.

In the early periods of pregnancy most women experience more or less of what is termed the MORNING SICKNESS. The first intimation of this will most likely be experienced upon rising from bed. Before rising, you may feel as well as usual; but, while dressing, you may begin to feel nausea, followed by retching, and perhaps by vomiting before you leave your room. Perhaps it may not occur until some little time after leaving your room, or not until after breakfast, which may

be eaten with a good relish, and almost immediately after thrown up again, with but very little sickness accompanying its ejection. After this you may feel as well as usual until the next morning.

This symptom may be present almost immediately after conception; but it more frequently commences two or three weeks after, and continues more or less constant and severe for several weeks, and, in some instances, till near the time of quickening, or even till confinement.

When it occurs, and is *unaccompanied* by any other indication of derangement of health, it may be regarded as a sign of no inferior importance.

In some rare instances it does not occur till the last weeks of pregnancy, in which case it is apt to be severe; and in other instances it is altogether absent during the whole period.

When the system is thrown into a feverish state by the occurrence of pregnancy, this vomiting operates as a safety-valve for its protection from actual disease; and when there is undue activity of the liver, there may be more or less of bile thrown up with the contents of the stomach.

It is not unfrequently the case that almost immediately upon the commencement of pregnancy, and be-

fore the time for the succeeding menses to appear, women feel as though they had taken a slight cold, and as these feelings are unaccompanied by any unusual symptoms in any very appreciable degree, the non-occurrence of the menses is erroneously referred to that cause. At other times they are troubled with a choking sensation, which induces a cough, particularly in the morning, and they find their mouths and throats lined with mucus or SALIVA OF A VERY PECULIAR CHARACTER.

It is very tenacious, and very difficult to deliver from the mouth; it is extremely white, and a little frothy, and, when discharged upon the floor, assumes a round shape, about the size of a shilling piece; hence the expression, so common in some parts of the country, that such an one is "spitting English shillings" or "cotton." This state of the saliva is by no means a constant attendant upon pregnancy; but when it does occur, it very certainly points out this condition.

Frequently, if the nipple is examined about six weeks after the commencement of a pregnancy, it will be found to have increased in size; and to have, formed around its base, a *circle* called the AREOLA, of a darker color than previously, with here and there scattered upon its surface a few, say from ten to twenty, little prominent points or pimples. As time advances, the

areola will be found to increase in its dimensions, and to become of a still darker color; its surface may be found bedewed with moisture, which is sometimes so profuse as to stain the linen; and the little prominences to have increased in size. The color of the areola is always found to be modified by the complexion of the individual, and to be more or less dark in proportion as the complexion is so. In some these changes begin to appear within two or three weeks after conception; in others they appear at a much later period; and in *many* none of them are ever manifested; so that, although their appearance, and particularly the appearance of these little prominences, is considered as almost a positive indication of pregnancy, their absence is very far, indeed, from being any important evidence to the contrary.

The areola has sometimes been found without the existence of pregnancy, but it is believed that the little prominences above named have never been found upon it in such cases.

There is a popular impression that the ENLARGING OF THE BREAST, at any period after the age of puberty, is a very sure sign of pregnancy, and that the secretion of milk in them is a certain and infallible evidence of its existence. But the importance of these has been

very greatly over-estimated. Neither of these signs are by any means certain. They may, it is true, both be present, and it is also true that neither of them may occur until after confinement.

In many instances the breasts begin to enlarge very soon after its commencement, and milk, or, rather, a milky fluid, begins to be secreted at a time coeval with the enlargement of the mammæ.

In some instances, also, the mammæ have become considerably enlarged, and even milk has been secreted from other causes than pregnancy; as, for instance, the existence of some derangement of health causing the interruption of the menses.

Dr. Dewees states, that he "once knew a considerable quantity secreted in the breasts of a lady, who, though she had been married several years, had never become pregnant, but at this time had for two years been separated from her husband. She mentioned the fact of her having milk in her breasts to a female friend, who, under the impression that it was a certain indication of the existence of pregnancy, told it to another friend as a great secret, who, in her turn, mentioned it to another friend; and thus, after having enlisted fifteen or twenty to help them keep the secret, it got to the ears of the lady's brother. His surprise was only equaled by his rage. He accused his sister in the most violent and indelicate terms, and threatened her with the most direful vengeance.

"The lady, conscious of her innocence, desired that Dr. D. should be sent for forthwith, and insisted that her brother should not leave the room until he arrived, when, in the presence of her brother and of a female friend, she informed him of the above stated facts, and told him that her object in sending for him was to submit herself to such an examination as he might deem necessary, in order to determine whether she was pregnant or not. She still insisted that her brother should not leave her chamber until the question was decided; and the examination was accordingly conducted without his withdrawing, and resulted in the unhesitating declaration of the doctor that she was not pregnant."

The doctor "had anticipated such a result from the account given of her health for some time previously. The catamenia had ceased, and she exhibited indications of consumption, of which disease she died about eight months afterward."

Again, you may observe no important indication of the existence of pregnancy, until you discover, by pressing with the ends of your fingers upon the lower part of the abdomen, just above the front bone (sometimes called the shear bone, or bar bone), the ENLARGED WOMB, in the shape of a hard, round substance or ball, apparently about the size of an orange, or a little larger.

Thin, spare women may be able to feel this within from six to ten weeks after conception; but those who are more fleshy may not be able to do so till a much later period. In order for this, you should lie down upon your back, with the shoulders raised a little by pillows, and your knees drawn up. In this position the muscles of the abdomen are relaxed more than in any other, and consequently offer less resistance to the pressure of the fingers, and, of course, you will be able to detect any thing of this kind much sooner, and feel it much more distinctly, than if you attempt it while in any other attitude. If you discover such a substance in that situation, and find it gradually enlarging, and rising up higher and higher, at the rate of about two fingers' breadth per month for two or three months, and then find it as large as a child's head, and the top of it about as high as the navel, you may safely regard it as a sure indication of pregnancy.

It not unfrequently happens that the ABDOMEN ENLARGES slightly at first for a little time, and then becomes much flattened at about the beginning of the second month; hence the common proverb with the French, "*A ventre plat enfant il y a.*" It soon afterward begins again to enlarge, and continues regularly and slowly to increase till about the time of the com-

pletion of the eighth month. At first its enlargement is along the median line, or directly in front, and at quite its lower part, while, at the same time, the navel *may*, as it were, sink inwardly somewhat, so as to be even below its natural level. Until the fourth month, the sides, between the ribs and the hips, appear to diminish instead of enlarging; the growth is from below upward, directly in front, while the sides are for a long time considerably flattened. Any enlargement of the abdomen that does not correspond with this description is certainly not occasioned by pregnancy. But there may be one occasioned by enlargement of the womb from disease that may correspond very nearly to it; yet if the enlargement corresponds, in its origin and progress, with this description, and is unaccompanied by any serious failure of the general health and strength, it may be regarded by you as sufficient evidence of its existence.

It may be proper here to remark that, on the one hand, the absence of any one, or two, or even of all the above-named signs of pregnancy, excepting the last, during the first half of the ordinary period of gestation, is the furthest possible from proving that it does not exist; and that, on the other hand, the presence of any one of them is sufficient to excite suspicion of its exist-

ence; that the evidence increases with the presence of each additional one; and should they all, or even any considerable number of them, be present, their combined testimony would afford such evidence as could hardly be called in question.

Perhaps I ought also to add, that there are still other and *less equivocal sources of evidence* by which the truly scientific physician is able to determine upon the question of its existence in doubtful cases. I have omitted to name them, because they are of such a nature that a knowledge of them could be of no benefit to you.

QUICKENING.

Owing to the small size and embryonic condition of the child, and the consequent weakness of its muscles, and the feebleness of their contractions, its motions are not usually perceived by the mother until about the completion of the fourth month; but the time when they are *first* observed varies very considerably in different individuals, and in the same individual at different times. They are sometimes felt as early as the completion of the third month, but more usually not until the completion of the fourth, or even the fifth or sixth, and in some rare instances they are never felt during the whole period of pregnancy. An English

physician found that in seventy instances of pregnancy they were first felt in

9	at the	completion	of 3	months;
11	"	"	3½	"
21	"	"	4	"
16	"	"	4½	"
8	"	"	5	"
1	"	"	5½	"
4	"	"	6	"

The time when the motions are first observed is designated as the period of *quickening*. They are very feeble at first, and are described as simply producing a sort of fluttering or trembling sensation, which not unfrequently leaves the mind in doubt whether it was caused by the motions of the child or not. Sometimes a very uncomfortable feeling of faintness is thus caused.

The accompanying sensations are often very different from those afterward experienced, from its stronger and more quick and elastic motions, which are usually felt very frequently during the remainder of the time until confinement puts a final termination to them.

DURATION OF PREGNANCY.

Your confinement may be expected to take place at the expiration of forty weeks, or two hundred and eighty days from the commencement of pregnancy,

which, in the absence of evidence to the contrary, may be supposed to have been within four or five days after the disappearance of your last catamenial or monthly period, or, in case of no better data, you may count one hundred and forty days from the time of quickening.*

The question has been often asked me, whether I suppose the term of pregnancy is ever protracted beyond the time above named. To this question I unhesitatingly reply that, beyond all doubt, it is very frequently protracted to as late as the two hundred and ninetieth, and, less frequently, to the three hundredth day, or even beyond that time.

Some years ago, there was held, in England, a legal trial of a case involving the question of the duration of pregnancy. It was called the Gardiner Peerage Case, and was instituted for the purpose of settling the title of a claimant of that peerage. Many eminent medical men were examined on the occasion, and the result was that no absolute term of pregnancy was ascertained. Moved by the interest excited in that case, Dr. Merriman, of London, took the greatest pains to ascertain the duration of pregnancy in a great number of women, and succeeded in satisfying his mind

* The Jewish women, in obedience to the divine command, continued the "days of their separation" seven days after the *dis*appearance of the flow. A compliance with this rule by others would no doubt contribute to the well-being of all concerned, and oftentimes afford essential aid in the preservation of health.

of the great correctness of the computation for one hundred and fourteen cases of *mature* children. The results of these inquiries he published in the London Medico-Chirurgical Transactions, vol. xviii., part xi., page 338. He gave a tabular statement, designating the number of days' duration of each case, from which it appears that there were

3	born	during	the 37th	week:
13	"	"	38th	"
14	"	"	39th	"
33	"	"	40th	"
22	"	"	41st	"
15	"	"	42d	"
10	"	"	43d	"
4	"	"	44th	"

From this, as well as from a great amount of other testimony to the same effect, it appears certain that the term or duration of pregnancy is far from being absolutely fixed; that, while in some cases the fœtus may become mature in less than two hundred and sixty days, in others it does not become so until the completion of three hundred or more; the time varying much according to the vital force with which it is endowed, and other circumstances perhaps unknown.

Still, in the great majority of instances, women may safely calculate upon confinement very nearly at the expiration of forty weeks, or two hundred and eighty days, as above stated.

A *premature confinement*, or one in less than the average period, is more likely to take place in a first pregnancy than in subsequent ones. In these it is not very unfrequent that the fœtus becomes mature by the expiration of from two hundred and sixty to two hundred and seventy days. In one instance, however, which came under my observation, a first pregnancy did not terminate until the expiration of over three hundred days; the mother having suffered very much from ill health, arising from causes unconnected with her condition, during the whole time.

In cases of first pregnancy, also, the womb, on account of being unaccustomed to distention, or from other causes, not unfrequently takes on the expulsive contractions of labor, and terminates the pregnancy before the fœtus has arrived at maturity. If this occurs, as it sometimes does, at the expiration of seven months, the child is usually so far developed as to survive, if properly taken care of; but if it occurs at six months, the infant very seldom, if ever, survives more than a few minutes or hours at the longest.

CHAPTER II.

PRESERVATION OF HEALTH DURING PREGNANCY.

In respect to the CARE PROPER TO BE TAKEN OF YOURSELF DURING PREGNANCY, you will expect me to say something. This is rendered doubly important on account of the close connection there is between the health and happiness of the mother, and the present and future well-being of the child. That the welfare of the fœtus, in relation both to its physical and moral conditions, is intimately connected with the health and regularity of the maternal system, and is consequently so far under the control of the mother as she may have it in her power to avoid the sources of disease and inordinate excitement, there can be no doubt. From the moment, therefore, that conception has taken place, a new and most sacred duty devolves upon the female. She is bound by all the ties of maternal sentiment, of humanity, of moral and religious obligation, to protect, so far as it may be in her power, the nascent being in her womb, against every circumstance which may have an unfavorable influence upon its delicate organization

Though not in itself a state of disease, pregnancy is in most instances attended with a *decidedly increased*

susceptibility to injurious influences. It is true that many times women enjoy good health throughout its whole course without taking any special care to avoid the usual sources of injury. Very frequently, however, the reverse obtains, and we daily witness much suffering and danger, both to the mother and child, from the influence of causes which, with proper care, might be avoided or rendered inoffensive.

THE DIET should be well regulated. I have already mentioned that a morning sickness and vomiting may be expected during the early periods of pregnancy. Notwithstanding this, the *appetite is frequently very craving*, especially after the morning sickness has subsided, as it usually does, after a few weeks; and an improper indulgence in rich and high-seasoned food is among the most common errors of females during this period. This error is the more apt to be committed from the incorrect idea entertained by very many that, as the fœtus draws its nourishment from the mother's system, a greater quantity of aliment is required during pregnancy than at other times. I pray you avoid it.

There is in many women a strong tendency to a plethoric state of the system during pregnancy, which, if not counteracted either by nausea and vomiting, or a properly regulated diet, or by the frequent use of ca-

thartics, such as salts, or by an occasional bleeding, is very apt to produce unpleasant consequences: such as headache, dizziness, a feeling of pressure or fullness within the head, and in the veins over the whole system; swelling of the feet and limbs, piles, restlessness, sleepless nights, abortion, and numerous other evils arising from the taking of too much or too nutritious food, and the consequent production of too much blood in the system.

There can certainly be no propriety in making use of an increased amount of food, and then being bled once, twice, or more times to carry off the excess of blood, in order to render you in a measure comfortable; especially when you have it in your own power, by the use of a properly-regulated diet and suitable attention to exercise and other items of regimen, to keep yourself in a happy state of health without a resort either to medicines or the lancet.

It would surely be very much better for you to restrict yourself to a moderate diet, consisting principally, if not wholly, of simple, plainly-cooked articles of vegetable food. By so doing, most usually the above-named evils may be avoided.

If, however, as sometimes happens, you find yourself feeling the best after having eaten more heartily, it may be well to indulge the appetite somewhat more than would seem to be indicated by the above remarks, always doing so with caution, however, and restraining

it upon the first occurrence of any of the symptoms above named as the consequences of over-feeding. An ounce of prevention is worth a pound of cure.

There is an impression in some parts of the country, and more in England than here, that pregnant women should carefully avoid EXERCISE *during the early months*, and take more and more as the time advances. This is altogether erroneous. During the early months of pregnancy, active exercise should daily be taken, to the full extent of the powers of the individual, short of producing such a degree of fatigue as to interfere with quiet rest. The exercise taken should be of such a kind as will keep the mind interested, and the body in more or less constant motion. All lifting of heavy articles, or strong exertion in moving them, or jumping, or riding upon horseback, or in a carriage swiftly over a rough road, should be carefully avoided, as well as every kind of quick or violent action of any member of the body. The fatigue should be induced by continued moderate action, and not by violent exertion.

Such exercise as this will operate most favorably as a preventive of the multitude of bad feelings which are apt to attend this state, and on that account should never be omitted, unless for such reasons as are connected with some peculiarity of the individual; as,

for instance, a state of disease rendering it impossible without injury to the general health, or a *tendency to abortion*, for which she should seek the advice of her physician, who will probably require her to keep very quiet, and to carefully avoid all severe exercise or excitement of either body or mind. It is likely that many other things may also be required, but the treatment must necessarily be so various in the different cases, that it would be in vain for me to say more about it at present. Each case should be submitted to the discretion of a competent adviser, and his directions followed.

As the time advances beyond about the fifth month, the amount of exercise should be diminished gradually, until the expiration of the eighth month at least, if not longer.

This will be according to the dictates of reason and of experience, as well as most agreeable to the feelings of the patient herself.

Most usually, during the last two weeks, there is felt more of a disposition to move about than for some time previously, and when this is the case, there are no objections to its being done.

This course of *diet* and *exercise* is the one most conducive, in the great majority of instances, to the health

and vigor of both body and mind, and therefore most conducive to the happiness of the individual and the well-being of her offspring. Too severe labor can not fail to have an injurious effect upon both ; and, on the other hand, too great indulgence in ease, or, rather, too great neglect of bodily exercise, and too great indulgence in the pleasures of the table, can not fail to produce decidedly injurious consequences upon both the mother and the infant.

It can not be too strongly impressed upon your minds that the strictest temperance in all things pertaining to food, drink, sleep, bathing, &c., as well as a suitable amount of active, and even somewhat vigorous daily exercise, of both *body* and *mind*, are indispensable for securing to yourselves that degree of *health* which you may enjoy by the exercise of due care.

Neither can it be too deeply impressed upon the minds of *all parents*, that the more of *health* and *happiness* is enjoyed by mothers during the period of pregnancy, the more, other things being equal, their children will enjoy throughout the whole period of life.

Tranquillity and cheerfulness of mind are always highly favorable to health. In pregnancy, the importance of a calm and even temper is especially great. Violent anger, terror, or jealousy, seldom fail to produce

unpleasant effects; and the consequences are sometimes alarming, and even fatal. Convulsions, spasms, syncope or fainting, insensibility, hemorrhage, and abortion, may be produced by mental excitement. But even where none of these severe affections result from the more agitating emotions, there are various minor evils of a discomforting and distressing character, which are liable to occur from influences of this nature. The functions of the stomach, the heart, the liver, and the brain itself, are strongly influenced by the mind. Debility, indigestion, jaundice, emaciation, and various other functional disorders, and even organic affections, are not unfrequently produced by unhappy mental emotions, more especially by intense and protracted grief and distress of mind. It is true, indeed, that the accidents and misfortunes, to which all are liable, sometimes bring grief, and sorrow, and distress with a force which can not be sufficiently resisted.

There are, however, other causes of mental dirturbance which are more under the control of well constituted minds. Fretfulness and moroseness of temper, envious and jealous feelings, peevishness, hatred, discontent, obstinacy and perverseness of disposition, are under the control of reason and a sense of propriety; and it is of the greatest importance to the well-being of the mother and the child that every effort which good sense and moral feeling dictate should be steadfastly made to keep down these degrading sentiments

I am well aware that, owing to the unusual irritability of the physical system, induced and maintained by the state of pregnancy, the difficulty of controlling the feelings often becomes *peculiarly great* at such time; but, by resisting with constancy and firmness the indulgence of any thoughts calculated to give rise to any and all unhappy emotions (for the emotions are, in a great measure, dependent upon the thoughts), very much may be done to secure both health of body and peace of mind.

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A strict observance of the instructions above given respecting diet and exercise, *will also aid very much* in preventing that increased irritability of the nervous system which so often renders the maintaining of a calm and tranquil state of mind extremely difficult.

The importance of maintaining a proper state of the mind and feelings could hardly be over-estimated, even if the effects were merely temporary, and confined to the mother during the period of pregnancy. But this is not the case; they *descend to the infant*, and often seriously affect, if they do not absolutely determine, the general disposition, and many of the mental characteristics of the child, which continue to be prominently exhibited during the whole period of life.

This is a most interesting and important *truth*, well known and established; and it is to be deeply regretted it is so very seldom brought to the attention of *young* parents. It is known to but few parents until they

observe plain and unmistakable illustrations of it in their own families, at a period of life subsequent to the birth of most, if not all, of their children.

The popular tradition, which renders so many women exceeding solicitous lest their infants should suffer some physical deformity through the influence of their own minds, has very little, if any thing, in truth, to support it. It is against the production of mental, and not physical, deformities in their offspring, that pregnant women should be upon their guard.

YOUR DRESS SHOULD BE WARM, LOOSE, AND LIGHT during the whole period. Women are too prone to continue to wear the same dresses they have formerly done, as long as they are able to do so, even by tightly compressing their waists. This is wrong. The waists of the dresses should be "let out" at an early period, and always be kept sufficiently large to avoid all compression.

If in the last months you suffer from a distention of the abdomen and a feeling of weight, you can easily construct an elastic band, made to fit nicely over it, and to bear with equal pressure upon all parts, and so wide as to cover nearly the whole of it. By passing such a band round the body and making it fast behind, you can, by means of straps attached to its upper edge,

easily carry a part of the weight upon your shoulders. Many women have found great comfort from this simple contrivance.

The breasts, even in girls, should never be compressed by the clothing; much less should married women allow theirs to be so. For one who is pregnant to permit such pressure is to do herself, if not others, a very serious injury. You will not, then, allow of the least pressure upon them, and not only so, but you will be very careful that the nipples are effectually protected from any influences that will tend in the least to prevent their enlarging and standing out prominently from the breasts as they should do, and in all probability will do, if they have been duly protected from compression by the clothing.

If I speak somewhat decidedly upon this subject, it is because I have seen so much and so severe suffering occasioned by want of proper management on the part of young women in regard to it.

Not a few instances have I seen where the young mother has had her nipples so thoroughly compressed during her girlhood, and also during her married life, and pregnancy even, that after confinement there has been nothing that could properly be called a nipple to be found. The suffering endured by both mother and

child under such circumstances is commonly by no means trifling: it is often dreadfully severe.

If, when entirely free from any pressure, you find that the NIPPLES do not project sufficiently from the breasts, you will do well to draw them out occasionally—more or less frequently, according to the urgency of the case. You may begin to do this at an early period if the case be a bad one, and continue it up to the time of confinement, once, twice, or more times daily, if required.

If, however, this operation produces the least painful or unpleasant sensation in the lower part of the abdomen, or any of the feelings which you will find described as threatening abortion, it should be immediately suspended, and not again attempted. It has been found that applying the child to the breast after confinement excites contractions in the womb, causing what are termed after-pains; and it has been thought that the drawing out of the nipples before confinement, by the application of a young pup or an infant, might possibly excite such action in the womb, in some women, as to produce abortion; however this may be, there can very seldom, if ever, be the least reason to anticipate such a result from drawing them out in the way I am about to propose.

It can be easily done by means of a common breast-

pump or pipe, or, in case of necessity, by taking a common half pint or pint bottle, with a mouth of suitable size, and smooth. You will fill this bottle with hot water, so as to heat it, then pour out the water, and, as soon as the bottle is sufficiently cool, apply the mouth of it to the breast over the nipple. The skin around the nipple should be previously wet, so as to prevent the air from entering the bottle without its being pressed too hard against the breast. As the bottle cools, the air within it will cool also, and in cooling will produce a vacuum which will cause the nipple to be drawn into the mouth of the bottle. You can retain it there for five, ten, or twenty minutes at a time, as you think expedient. You can easily regulate the degree of suction upon the nipple by having at your side two bowls or other vessels, one containing warm, and the other cold water, with a small bit of cloth of some kind in each. If you wish to increase the suction, apply the cloth wet in cold water to the surface of the bottle; if you wish to diminish it, or to remove the bottle, apply the cloth wet in warm water to its surface.

The suction should not be so hard as to produce pain, but it may have to be made many times before the object desired will be accomplished—before the nipples will be made to remain standing out prominently from the breast, so as to be easily grasped by the mouth of the child.

Some have recommended, for this purpose, the wear

ing of a ring of beeswax, or the common glass nipple shield; but in bad cases they will not alone accomplish the object, and, besides, they can not be easily retained in their places. They may, however, sometimes be used to advantage after the nipple has been drawn out sufficiently to retain them. Since commencing this work, another plan has been brought to my notice for keeping the nipples permanently prominent after they have been drawn out by the above means. It consists in the winding of a bit of woolen thread or yarn two or three times around the base of the nipple, previously drawn out sufficiently, and tying it moderately tight, but not so tight as to interfere with the free circulation of the blood. The thread was of large size, and made of fine wool, uncolored. By this means a young mother, a patient of mine, was able to keep her nipples permanently sufficiently prominent. She wore these constantly for many days without the least inconvenience, and with permanent good results. It was a plan which suggested itself to her mind, and she put it in operation without the advice of any one. It was to me a novel plan, and one with the operation of which I was much pleased. I can see no objections to its being put in operation at any time desirable before confinement, and should strongly recommend its trial in cases where the nipple, after having been drawn out, if left to itself, soon sinks back again and becomes imbedded within the breast.

The drawing out of the nipples in the way I have mentioned may, in some instances, excite the secretion of milk before the proper time; and it is possible somebody may tell you that on that account it should not be done. I admit that this is an evil which should at all times be avoided, where it can be done without the occurrence of a greater evil. But I regard the absence of a sufficiently developed nipple as a much greater evil, and therefore I advise to this measure, even if it does cause some milk to be secreted, and even to be drawn out of the breasts before confinement. In cases where the nipple can be kept out by the use of the woolen yarn, I should think there would be little, if any, trouble of this kind. I should not think that the constant wearing of the yarn would have any injurious influence whatever, but that it would have a tendency to render the skin less tender and liable to crack after confinement.

But the want of sufficient development is not the only trouble in respect to the nipples. You must have learned before this that young mothers are very liable to be afflicted with sore or cracked nipples. This often occurs where it is sufficiently developed, on account of its having been kept *folded* down upon the breast, or pressed, as it were, directly backward, and imbedded within it by the clothing. In this way, the skin around its base, being folded upon itself, is kept in such a very thin and delicate state, that it is altogether unfit for the

purposes for which it was designed. The result is, that, soon after the child begins to nurse, the skin becomes irritated and chapped; or large cracks or fissures form in it, which extend deep into the substance of the nipple, and then such a degree of inflammation and sensitiveness follow as to put the poor mother into a state of the greatest distress every time the child is applied to the breast.

To guard against evils of this nature, they should not only be kept entirely free from all pressure from the clothing, but they should be frequently rubbed, upon all sides and in every direction, with the palm of the dry hand, or with a dry cloth of as coarse a texture as can be borne without discomfort. If this rubbing is commenced soon after the commencement of pregnancy, and repeated once or twice every day till the time of confinement, the skin will, in most cases, become so much thickened and toughened as to prevent any trouble afterward. The rubbing should be continued five or ten minutes each time.

Some recommend that, for five or six weeks before confinement, the nipples should be washed, three or four times every day, with a decoction of green tea or brandy, or a decoction of oak bark or of pomegranate bark, and exposed to the air for ten minutes each time after having been wiped dry. It is very possible that this course might be more efficacious in some instances than the other; but I think that very few women will

suffer if they simply make use of the dry rubbing with due perseverance.

The BOWELS should be kept in a loose state during the whole period of pregnancy. This should be done by means of suitable diet, if possible. As the time of confinement approaches, particular attention should be paid to this matter, and a gentle laxative should be taken every second or third day, if necessary, in order to procure their evacuation. But if they are in a comfortable condition, there will be nothing gained by taking medicines, until you receive the premonitions, hereafter to be named, that you are very soon to be confined, when, if the bowels have not very recently been freely moved, I should urgently recommend you to take a dose of castor-oil, confection of senna, or senna and salts. Castor-oil will be much the best, however, as it operates more quickly, and more thoroughly evacuates the bowels. Senna may be too irritating.

This will make your labor easier, and may possibly supersede the necessity of your taking a cathartic one or two days afterward, when it may be much more troublesome than at this time.

CHAPTER III.

PREPARATIONS FOR CONFINEMENT.

You will not, probably, perceive much, if any, enlargement of the abdomen after the completion of eight months. From this period your size will be likely to remain stationary, or nearly so, for two or three weeks, when you may expect it to begin to diminish very gradually, and continue to do so till the time of confinement. This diminution will begin around the waist, and will be confined to that part of your person. It is sometimes spoken of, and perhaps properly, as a "settling down," rather than as a diminution in size. Whenever you perceive it, you may be sure your confinement is near at hand.

Sometimes it is not observed, either because it is so gradual, or because it does not take place at all till a day or two, or perhaps even a less time, before the commencement of the pains of labor.

Whenever it takes place, the stomach is more or less relieved from the pressure to which it has been for so long a time subjected. The appetite is, consequently, increased, and there is a much more general feeling of comfort and elasticity than has been experienced for a long time.

If, after a week or ten days, you find yourself some day feeling very unusually well, you may confidently expect to become a mother within twenty-four or forty-eight hours.

If your PREPARATIONS FOR CONFINEMENT have not already been completed, they should now be attended to without delay. Your room, bed, clothing for yourself and infant, should all be put in perfect order and readiness for use.

It will be well, also, to give notice to your female friend whom you expect to be with you at the time, and who should have some knowledge and personal experience in these matters, as well as to your nurse and your medical attendant, that they may be in readiness to wait upon you at any moment.

These three persons are all that should be invited to your room during your confinement. Your husband, also, we expect to be present, as a matter of course. Our English neighbors, on the contrary, expect him to be absent, as a matter of course.

I would not be understood to say, however, that the attendance of all these persons will be absolutely necessary; it is well, however, that they should be constantly within a moment's call. If for any reason some of them should be unable to be present, you will doubt-

less receive from the others all the assistance that could contribute to your comfort. The custom of inviting several women on such occasions is not only useless, but is oftentimes *exceedingly injurious*, not only because their breath will make the air of your room less pure, but for a variety of other and more important reasons, which it is unnecessary here to name.

The COMMENCEMENT OF LABOR is usually first indicated by the occurrence of one or more of the following symptoms, particularly the last named.

1st. An irritability of the bladder, and perhaps of the lower bowel, causing the patient to have an almost constant desire for their evacuation.

2d. Rigors or shiverings, unattended with any sensations of cold.

3d. An increased mucous discharge or flow, sometimes streaked with blood.

4th. Nausea and vomiting: The occurrence of this is regarded as a good sign, as it is known to indicate that the mouth of the womb is rapidly dilating.

5th. The occurrence of true labor pains.

These frequently commence in the back: sometimes they are first felt in the uterine region, or lowest and front part of the abdomen, and extending from there to the loins, the lower part of the back, and the inner

sides of the thighs. They are not constant, but periodical or intermittent; that is, pain is felt for a moment or two, and then it entirely ceases for a considerable time. At the commencement there is often merely a feeling of uneasiness; and when active pains first begin, they are short and slight, having long intervals between them, of perhaps half an hour or more, each pain lasting but a few moments. By degrees, they become more and more frequent, longer and harder, till the termination of labor.

During the last weeks of pregnancy, women are not unfrequently troubled with irregular pains in the bowels, back, and other parts, which are called false pains, because they sometimes so closely simulate those of true labor. I shall speak of them at a future time.

I wish you ever to bear in mind that LABOR IS A NATURAL process, and that, being such, if you are in good health, and have maintained proper habits in all respects during the period of pregnancy, and have *proper attendants* at the time, you may confidently expect it to terminate favorably, and without being followed by any serious consequences.

The pains may, and no doubt will be severe for a few moments at a time; but their frequent interruption, by intervals of perfect ease, renders them much

more endurable than they otherwise would be. I am acquainted with women who have assured me that they have repeatedly passed through confinement with less suffering than they have sometimes endured at a monthly period.

Do not, then, allow yourself to look forward to it with any feeling of dread or of apprehension. You should rather regard it as attended with much that is pleasing, and look forward to it with joyful anticipations.

Under *proper* management, its termination is almost uniformly a happy one. It is so in such a large majority of cases, that serious apprehensions of evil in regard to it are scarcely more called for than in regard to a short journey by rail-road or in a common carriage. An unhappy termination may take place in either case; but such instances are very unfrequent, and most usually are the result of want of proper care and attention.

During the year 1850, the whole number of persons who lost their lives upon all the rail-roads in Massachusetts was forty-two. This, considering the thousands upon thousands who traveled upon them, was perhaps a less mortality than may be expected to take place among women during confinement. Still, as I before said, under proper care they have no occasion for any apprehension of serious consequences, and should never indulge them.

Of the whole number who lost their lives upon the

rail-roads above named, eleven were brakemen, most of whom were killed by bridges across the roads, and eleven others were either crossing or upon the track. Five were intoxicated, and two accidentally fell from the platforms; while only three passengers received fatal injuries while occupying their proper places in the cars. From this statement it appears that nearly three fourths of the whole number of deaths were the result of carelessness. Perhaps there is nearly as large a proportion of the fatal cases among parturient women the result of want of *proper care at the proper time.*

It does not follow, however, that because the process of parturition is a natural one, it is necessarily one that may, with safety, be left entirely to the undirected powers of nature. A SKILLFUL ACCOUCHEUR SHOULD ALWAYS BE IN ATTENDANCE. The passage of rafts, boats, and ships over rapids, or through dangerous straits, is also a natural process; they are carried forward by the current of the water, or by the wind, or by both, yet reason and common sense, as well as experience, all testify to the danger of leaving them, unguided, to the force of the elements by which they are propelled. The services of a well-instructed and skillful pilot are required to insure their safe passage.

But such a pilot may seldom appear to have much

to do. He knows where the dangers lie, and, by guarding against them in due season, they are avoided, without his doing enough, perhaps, to even attract the attention of the by-standers to the fact that he has done any thing. He gives an order in a few words, which, being promptly and implicitly obeyed, all is well; the threatening evil is avoided, without any one but himself being aware of its existence. He well knows that the shoals, and rocks, and currents, and counter-currents, and under-currents, and rapids, and eddies, &c., &c., as well as the winds and the waves, are all to be kept in mind, and to be provided for in due season, and each in its proper way. He knows, too, that the more quietly he can do this, the more perfectly he can have his time and thoughts at his own command, and thus perform the duties of his office with the more certainty and efficiency. He well knows that if he becomes unduly alarmed by the threatening aspect of one danger, he will be but the more liable to run upon another.

When directing a valuable cargo in its course through dangerous straits or furious rapids is no time for his mind to be idle, and he will gain nothing by pointing out to others the dangers that beset them on this side and on that. He needs to be a man well acquainted with all the dangers that may beset his course, and the best means that can be used for avoiding each without incurring undue risk from others. He needs to be a

man of calm, and deliberate, and, at the same time, in cases requiring it, of prompt and energetic action. He should be able to look imminent dangers in the face, without any such perturbation of mind as in the least to disqualify him for deliberate, as well as prompt and judicious action

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The duties of the pilot and of the accoucheur are, in many respects, very similar; and although, in the great majority of cases, no absolutely fatal consequences would occur if none but an ordinary nurse were present, yet, at almost any period during the progress of labor, events may occur calling for immediate interference, and such interference as none but a *well-educated and qualified* medical attendant can afford. A delay of five minutes, or even of one minute, in some instances, may prove fatal.

I trust, therefore, that you will not fail to secure to yourself the services of one whose character, education, habits, and experience abundantly qualify him for these responsible duties.

You will be much better able to understand and appreciate the necessity for the attendance of such an one after I shall have explained more clearly the process of parturition, and pointed out more definitely than I can now do, some of the sources of danger to

which women are liable during labor. This I shall do in a future chapter.

I am aware that the PRESENCE OF MEN on such occasions must in itself be considered as any thing but desirable. The idea, in anticipation of the future, however (like many other things), must naturally be far more unpleasant to a modest young woman than the reality. All unpleasant feelings are very speedily and greatly relieved, if not wholly dissipated, by a proper conviction of the necessities of the case, and by those feelings of confidence and of safety which the presence of a proper medical man so justly and so uniformly inspires. This is as it should be. The circumstances render his presence and aid perfectly proper, and true modesty may be expected cheerfully to yield to necessity at all times, and without mortification.

Still, there are many women who possess such physical and mental characteristics as would well qualify them, *if properly educated*, to perform the duties of the accoucheur in the most satisfactory manner; and some efforts are now being made in this country for their *professional education.*

Whenever the services of *such women* who have been *suitably educated* can be obtained, there are very obvious reasons why they should be preferred.

The reasons why I now turn from the subject that might seem most proper for the next chapter are:

First. This is the proper place to speak of the origin and early growth of the New Being—a subject of much interest to every reflecting mind, and in which none feel a deeper interest than those who hope soon to enjoy the pleasures of a mother.

Second. This is the place to explain, to some extent, the peculiarities of the female organization, and the physiology of parturition, in order to enable the inexperienced young woman to enter upon and pass through the period of her expected confinement with that degree of composure, confidence, and assurance which an intelligent understanding of these subjects is directly calculated to inspire. If "ignorance is 'sometimes' bliss," it is also the mother of great and countless evils, while a knowledge of the abundant provision God has made for securing the safety of both mother and infant is directly calculated to diffuse around her path light, peace, and safety.

Third. This is the place to correct some very erroneous impressions prevalent in the community, by a plain and simple statement of facts, such as are regarded by the highest authorities as undoubted scientific *truths*. The TRUTH is often great in its *moral* bearings.

CHAPTER IV.

REPRODUCTION IN VEGETABLES.

The process by which a new individual being, having either vegetable or animal life, is brought into existence, is of great interest to most minds. Yet it has, until within a few years, been regarded as involved in a mystery far more impenetrable than that by which one already in existence receives its growth, development, and repair of injury, and so different from it as to bear to it little or no analogy. The results of late inquiries, however, leave no doubt that this difference is not so great as has formerly been supposed.

The one is called the *process of generation* or *reproduction*, and the other the *process of nutrition.*

The explanations I may be able to give of these will be more satisfactory, if you have in mind a clear and distinct idea of the ultimate structure, or what is called the primary form, of all organized or living matter.

All living bodies, vegetable as well as animal, are mainly composed of minute *cells* or *closed sacks*, variously modified in shape, and filled with a fluid or other matter. These cells are too small to be discovered without the aid of a microscope of high magnifying

power. After their first formation, they may or may not retain their original form. They may also undergo changes in regard to their contents which shall impart to them a character entirely new. Such, for instance, occurs in regard to adipose or fatty tissue, which is nothing else than a mass of cells filled with oily substances; in cartilage there is a corresponding deposition of gelatinous substance, and in bone the cells become filled with hard calcareous matter.

In our bodies, each tissue or part; as, for example, that composing the bones, the muscles, the nerves, &c., is composed of a particular kind of cell; and the cells of each kind are filled with a substance peculiar to themselves.

Every part of the body is kept alive only by a continued act of removal and renewal of the cells composing it. The cells, as they are successively brought into existence, are organized, prepared for life, and, indeed, are in some sense living things, but soon lose their vitality, and in their decomposition or "oxydization," as Liebig says, give heat to the system, and are carried out of the body. In this manner, all the cells in the body are in due time exchanged for others. Each cell, having this seemingly independent life of its own, has consequently a limited duration which has no immediate connection with the life of the organism at large.

Some physiologists have been so impressed with this seemingly independent life and growth of the individual

cells, as to imagine that our bodies are made up of microscopic animalcules congregated together according to their species, and thus forming the various tissues and organs of which they are constituted. Schwann, the celebrated German microscopist, goes so far, even, as to say that they are as much independent beings as the bees in a hive!! I need not inform you that this is not in accordance with the more recent and more reliable observations of other physiologists, or with the common sense of mankind. They are all, to a certain extent, dependent upon each other, and constitute integral parts of one and the same entire individual being.

All cells have their origin in previously existing cells; but the manner of their growth or development is not always precisely the same. In the ORDINARY PROCESS OF NUTRITION, where the object is either the nourishment or the growth of a bone, muscle, nerve, or other part already in existence, the multiplication of the cells composing it is upon the same plan in all instances. The cell newly formed absorbs into itself nutrient particles of matter, and from these forms *within* itself one or more, usually two other cells, like itself, and endows them with vitality, each of which, in due process of time, in like manner gives origin and development to others, and so on indefinitely, according to

the peculiar laws of the individual organ or being of which they form a constituent part.

It is by this constant reproduction of one or more living cells out of lifeless but nutritious matter, *by* and *within* one already in existence, that the whole system is nourished, that it is developed in the young, that it is sustained in the middle-aged, and that the progress or decay is retarded in the old.

Another way in which cells receive their development is out of an organizable fluid. In animals this fluid is the blood; in plants, it is the sap. When, in the process of nutrition, in the growing embryo, a new part—as, for example, a new bone or a new muscle—is to be formed, the first beginning of such new bone or muscle is in the formation of one of these minute cells, of the peculiar character required out of the blood, through the influence of *that part* of the body *wherever* the new bone or muscle is to be developed. It is in this manner that the first cell, composing each separate bone, muscle, nerve, or other organ in our bodies, has had its origin. And then this single cell, so formed, generates within itself other cells like itself, and those others, and so on, as already described, until the desired organ is fully developed.

In plants, each branch has its origin and growth in a similar manner.

So, again, in the *process of reproduction*, as ordinarily exhibited in most plants and in all animals, when a new being is to be brought into existence, the origin—the first beginning of such new being, is in the formation of one of these microscopic cells out of this same organizable fluid, but in a peculiar manner presently to be described.

These reproductive cells are called "embryonic cells," and, although they are new beings in embryo, they have so nearly the same appearance as those which contribute to the growth of the individual, that no difference whatever can be discovered between them. Still, it is evident that there must be an inherent original difference, just as there must be between those that are to develop themselves into the various and diversified parts of the individual.

It is in the production of these embryonic cells, and their subsequent development by means of the ordinary process of nutrition, as already described, that the process of reproduction, formerly considered so mysterious, essentially consists.

Thus it may be seen that the process of reproduction, by which a new individual being has its origin and development, is exceedingly analogous to that of nutrition, by which each new branch in vegetables, and each new bone or muscle, or other part in our bodies, receives its beginning and subsequent growth.*

* The great similarity there is between the processes of nutrition

But, in the process of reproduction, this first cell is not designed to constitute a portion of the same whole as it is in the process of nutrition; but to develop itself, in the manner already described, into a new and distinct individual, essentially similar in all respects to the being or beings from which it has received its origin.

For this purpose, when fully formed, it is endowed with a distinct and entire life of its own. It is then,

and of reproduction is made strikingly manifest, also, by the manner in which the multiplication of the lower orders of plants and animals sometimes takes place.

In that simple form of vegetable life—the yeast fungus or mould, for instance—each cell has a distinct and separate existence, and is capable of giving origin to other cells of like nature, and thus the production of a new cell in connection with the original one may properly be regarded alike as an act of nutrition and of reproduction.

We also see the same thing illustrated in the lowest forms of animal existence. In them the remarkable power of reparation, which is manifested in their nutritive operations, may be employed in the production of new individuals; for when the body is divided into numerous parts, each part has the power of developing all the rest of the structure, and thus of becoming, by the process of nutrition, a complete animal. In the hydra or fresh water polype there would seem to be scarcely any limit to this power; for if the body of the animal be minced into the smallest fragments, every one of these can produce a new and perfect being. In this manner no less than forty have been artificially generated from a single individual.

Still, for the purposes of reproduction, we find in most plants, and in all animals, some portion of their structure especially designed to produce cells which are destined from the first to become new beings, essentially similar in every respect to their parents.

in due time, cast off from the place of its origin, and entirely separated from the parent structure.

In the simplest forms of vegetable life, the cells, when liberated from the parent plant, develop themselves, without any further assistance than that which they receive from the air, moisture, &c., which surround them. This is the case in that order of plants called cryptogamia, or flowerless plants, of which the ferns afford us an illustration.

In flowering plants, on the other hand, the embryonic cells have a more complex origin. They are formed by the union, and commingling of the contents, of two, cells—a *sperm* cell and a *germ* cell—each of which must have a character peculiar to itself, and distinctive from all other cells.

The *sperm cells* have their origin in a set of organs which have received the name of germ-producing or male reproductive organs. In some instances, these cells are provided with the power of locomotion.

The *germ cells* have their origin in another set of organs, called the germ-nourishing or female reproductive organs.

In the process of reproduction, the sperm cell, when fully formed, is cast off from all connection with the organs in which it has been produced, and conveyed to the germ cell, which remains in the place where it has been formed; and then the two cells, with their contents, are formed into *one cell*. So far as is now

known, a single cell is never formed by the union of two cells, excepting in the process of reproduction.

This cell, so formed, is the *embryonic cell*, and is the first beginning of the new being. It occupies the same place in the germ-nourishing organ which was at first occupied by the germ cells.

It is there protected from all external injurious influences, and, being supplied with nourishment provided expressly for its use, it commences its own development. It is in this way enabled to attain a much higher degree of development than it could otherwise do.

But perhaps I may make myself more easily and clearly understood by describing this process as it takes place in a single plant, as in our *common Indian corn*, for instance.

You probably know that at a certain period in the growth of this vegetable there appears upon the top of the stalk a paniculated raceme, or what is commonly called the tassel; and you may have observed that upon this there are, in due time, developed small flowers, which produce a yellowish flour-like substance called pollen, which is scattered about by the action of the wind. This pollen contains the minute sperm cells already described. The parts of the plant most di-

rectly concerned in the production of these cells are called the *germ-producing* or *male reproductive organs.*

You may also have noticed that at about the same time with the appearance of the tassel the first rudiments of ears of corn begin to show themselves in the axillæ of the leaves, and that about the time the flowers begin to open upon the tassel, a large bundle of styles, commonly called "silks," begins to protrude from the opening at the end of the husks which envelop the ear. If, at this stage of development, you remove the husks, you will find the rudiments of an ear of corn. You will find the cob, and what *appear* to be the small kernels attached to it, all in regular order; and that each one of these styles or "silks" proceeds from the central part of one of these so-called, but miscalled, kernels, each of which contains one germ cell, together with a portion of nutritious matter, and constitutes a receptacle or nidus fitted and designed for the formation, protection, and nourishment of an embryonic cell. They are called by botanists ovules or ova, and the upper extremity of the style is called the stigma. These collectively, including the cob, are called the *germ-nourishing* or *female reproductive organs.*

I give you on the following page (*Fig.* 1) a sketch of a stalk of corn at this stage of its growth.

Upon the top is to be seen the raceme with its little flowers, which produce the sperm cells. There is also

to be seen upon the stalk an embryo ear of corn, with the husks turned down from one side of it, showing the rows of ovules, with a style or silk proceeding from the centre of each. These ovules (each containing one germ cell) are composed almost entirely of starchy matter. As already intimated, they are not of themselves designed to be developed into ripe grains; but they are designed simply to afford protection and nourishment to the embryonic cells that are to be formed within them, and are there to develop themselves into the perfect and mature grains. In this process the whole interior of the ovule is absorbed or "eaten up," to use a homely phrase, as nourishment by the embryo. The outside covering or skin, however, remains, inclosing the embryo kernel, and enlarges, to meet its necessities, at the successive periods of its growth.

Fig. 1.

The ORIGIN—THE FIRST BEGINNING of a grain or kernel of corn, then, is in the production of an embryonic cell, by the union of a sperm cell with a germ cell, and a commingling of their contents. The sperm cell, you will bear in mind, was produced by the small flowers of the tassel upon the top of the stalk. In due time, this cell, having become fully matured, and perhaps endowed, in some degree, with the power of motion, is cast off from the place of its origin into the air, and no longer constitutes an integral part of the parent plant; but, alighting upon a style, finds its way through it (for these styles are tubes) into the interior of the ovule, where, coming in contact with the *germ* cells, an embryonic cell is produced. The embryonic cell is here protected from all external injurious influences, and at first absorbing into itself the particles of nutriment here within the ovule, provided expressly for its use, it commences, and continues to develop itself in the same manner as do all other living bodies; that is, it gives origin within itself to two other cells, each of which, in their turn, give origin to two others within themselves, and, like themselves and each of these, to two others. We thus have first one cell, then two, then four, then eight, then sixteen, then thirty-two, and so on.

While consuming the small amount of nutritious matter contained within the ovule, as if conscious that it must seek a further supply from some other source,

it attaches itself, by means of a spongy growth or sul stance, to the cob, and through that to the parent stalk. This substance is called the *placenta.* (It may be seen very conspicuously in the pea : by opening a pod, one will be seen attaching each pea to the pod.) Its office is to absorb nutritious matter from the sap of the parent plant, and, after most elaborately refining it, carry it forward for the nourishment of the embryo, which, having this abundant source of supply, is enabled to go on in its growth until it has reached that degree and kind of development, as to size, shape, texture, color, &c., required by the laws of its individual being ; or, in other words, until it has become a ripe grain, essentially similar in all respects to that from which it has received its origin. When it has arrived to this state, the process of reproduction is finished—the *circle of life* is complete, and the newly-formed kernel, under favoring circumstances, will develop itself into the plant, producing in its turn other seeds.

It is, however, still inclosed within the thin outer covering or skin of the original ovule furnished by the female organs ; so that, notwithstanding the ripe grain (excepting this its thin outer covering) is produced by the growth and development of the embryonic cell, it has, nevertheless, the appearance, to the common observer, of being simply the product of the continuous growth of the ovule.

If, as often happens, through some defect in the style or other cause, some of the ovules fail to have embryonic cells formed within them, they will not continue to enlarge, as in the other case, but, instead of doing so, and being developed into ripe grains, they will remain unchanged in size or appearance for some time, and then will begin to diminish, and soon all the soft, nutritious matter they contained will be entirely absorbed.

You have here (*Fig.* 2) represented an ear of corn, some of the ovules of which, not having received sperm cells from the tassel, have become very much shriveled, leaving the spaces they should have filled upon the cob unoccupied.

Fig. 2.

When there are a great number of stalks growing in ordinarily close proximity to each other, there are not often many of the ovules which fail in this manner. But upon the ears growing upon stalks standing separately, and at considerable distance from other stalks, such failures are very numerous, because the air is not sufficiently filled with the sperm cells to cause one of them to fall upon each style. For the cells produced upon any given stalk do not all enter the ovules growing upon the same stalk, but, being scattered around in the air to a great distance, are almost as likely to enter the ovules growing upon other stalks as upon the one upon which they

themselves have had their origin. It is in this way that what is called the *mixing of corn* is caused.

The ovules, at the end of the ear most distant from the stalk, are not usually sufficiently developed to receive these cells at the time when they are, for the most part, at least, matured, and fall from the tassel, and of course produce no corn. It often happens, also, that the kernels near the extremity of the ear are small, because the nourishment afforded by the parent plant is taken up by the kernels growing nearer the stalk before it reaches them.

Each one of the embryonic cells, you will notice, has, from the time of its first formation within the ovule, as above described, a life independent of that of the parent plant. It is a NEW BEING, *having a whole and entire life of its own.* Its life-power is feeble, it is true, yet it exists, and acts, and gives to it the power of drawing the nutriment prepared for it by the female organs into itself, and of appropriating that nutriment to its own growth and development. It is true that its vital powers are so very feeble that it can draw to itself only such nourishment as has been most elaborately prepared for it by the vital actions of the parent plant. If not protected from all injurious influences, and supplied with such nourishment, it speedily dies; but nu-

triment thus prepared it does draw into itself, and appropriates to its own use, in the same manner as the mature plant appropriates nutriment derived more directly from the earth.

In most vegetables the male and female reproductive organs are found upon the same plant.

In much the most numerous instances they constitute portions of one and the same flower. This is the case in the apple, pear, peach, prune, plum, cherry, raspberry, blackberry, most varieties of the strawberry, and also in the bean, pea, turnip, cabbage, lettuce, &c., &c. These plants are called hermaphrodite, because they produce hermaphrodite or perfect flowers.

In other instances they constitute separate and distinct flowers upon the same plant, as in the corn, already described. You will also find the same to be true of the cucumber, melon, squash, and pumpkin. The false blossoms, as they are commonly called, are the male or germ-producing organs; and the presence of one or more of these upon each plant, or upon some other plant of the same kind not far distant, is essential to the production of fruit containing seeds that will germinate or "come up" if planted. Such plants are termed by botanists monœcious.

In some other varieties of vegetable life, however, the

different reproductive organs are found upon different plants, and growing from distinct roots, one root or plant bearing the male and another the female flowers. This is the case in the palm-tree, the date-tree, the buffalo berry, and some varieties of the strawberry. Plants of this kind are termed dicœcious.

In these cases the sperm cells are supposed by some to be transported from the flowers of the one plant to those of the other upon the feet of the insects which go from flower to flower in quest of honey; but it may with much reason be doubted whether this is ever done to any great extent, since it is well known that they are floating about in the atmosphere in very great abundance at the flowering period, in connection with the fragrance which is so perceptible to our obtuse sense of smell.

I say obtuse, because it is truly so when compared with the same sense in very many of the animals. The dog, for instance, is able to follow, by means of this sense, the footsteps of his master for many hours after they have been made; the particles of matter which have been in contact with the person of the master, and which, arising from his footprints, strike upon the organ of this sense—the extremities of the olfactory nerve—you must perceive, are exceedingly small. So, too, the sperm cells in plants are exceedingly small and numerous, and may be carried on the wings of the wind to a great distance.

An instance illustrative of this fact is related by an Italian writer. He states that upon the same plain, but at a distance of forty miles from each other, there grew two palm-trees, the one bearing male and the other female flowers. There were no other palm-trees within the vicinity of either. They both blossomed annually for many years, but no fruit was produced. At length, both having become so tall as to tower above all surrounding and intervening objects, and the wind blowing during the flowering season in the proper direction, the cells were carried from the one tree to the other, and an abundance of fruit was the consequence.

All the particulars of the process of reproduction here mentioned have been observed by naturalists, aided by the use of powerful microscopes, so that we need no other evidence of their correctness. But if other evidence were wanted, they could be very readily substantiated by the facts daily passing under the eye of every observing agriculturist, and by the entire absence of any thing observed in nature not perfectly consistent with them.

Do the seeds from the best varieties of apples fail to produce trees bearing the same kinds of fruit, it is because the embryonic cells which were developed into those seeds had their *paternity* in other trees than the

one which produced the fruit. Do seeds taken from squashes sometimes produce a fruit more like a pumpkin than a squash, it is because the embryonic cells of those seeds had their origin in part in a pumpkin.

If the ears of corn growing upon stalks far distant from other stalks fail "to fill," it is because the number of cells from the pollen are not sufficiently numerous to fill the air so full as to cause one of them to come in contact with each style or silk. If stalks of sweet corn, growing near to corn of other varieties, fail to produce sweet corn only, but the different kernels upon the same ear evidently belong to different kinds, it is because the sperm cells from different stalks have entered the different ovules, and the embryonic cells have developed themselves agreeably to their *paternity*. Yet the modifying influence of the *maternal* system is often *very* conspicuously manifested.

I this season planted, near one end of my garden, a small quantity of sweet corn, the kernels of which are very large, and, when ripe, present a remarkably transparent and shriveled appearance; near the other end of the garden, and at a distance of several rods from it, I planted a kind of corn called pop corn, the kernels of which are very small, round, and plump.

The result was that some few of the kernels which ripened upon the ears of the pop corn had their *paternity* in the pollen from the stalks of sweet corn. Some of these were nearly as large, and, upon ripening, were

as much shriveled as though they had had their development, as well as their paternity, upon the stalks of sweet corn, while others were but little larger than those of the pop corn, and, upon ripening, were but slightly transparent and shriveled. On the other hand, there were numerous kernels found upon the ears of sweet corn which had their *paternity* in the pop corn. Some of these, upon ripening, had the same appearance as those of the pop corn, with the exception of being a trifle larger, while others were two or three times as large, and some presented a surface very considerably shriveled. But still, there were none the paternity of which it was difficult, upon a close inspection, to determine.

You, perhaps, may ask: If the process of reproduction is as above stated, how happens it that we find all the peaches growing upon one tree to be so nearly alike? Why are not some sour, some sweet, some small, and some large, according to the embryonic cells developed within them? I reply that the soft part of the peach—that part which we eat—is not at all the offspring of the embryonic cell, but is wholly dependent for its nature and qualities upon the tree that produces it. It is no part of the new creation, but simply an envelope protecting and furnishing nutriment to it. The new creation is in the seed contained within the stone or pit, which, if planted, germinates and develops itself into a new tree.

The same question may be asked in relation to the apple, pear, cherry, plum, and all other fruits, and the same answer given.

Throughout the vegetable world, then, except in the very lowest order, we find that, in the process of reproduction, the female organs or plant produces a *germ* cell, inclosed within an ovule or nidus containing a portion of nutrient matter; that the male organs or plant produces a *sperm* cell, which, finding its way into this ovule or nidus, unites itself with this germ cell that these two cells, commingling their contents, form themselves into *one cell*, called an *embryonic cell*, which, absorbing this nutriment, commences its own development; that it subsequently draws its nourishment more directly from the parent plant, till it has developed itself by its own inherent vital powers into the size, shape, texture, &c., given to it by the laws of its individual being. An embryonic cell from the corn plant, for instance, develops itself into a kernel or grain of corn, similar in all respects to that from which it has received its origin, and not into a grain of wheat, or rye, or oats, or of any other grain, or of corn of a different variety.

CHAPTER V.

REPRODUCTION IN THE LOWER ANIMALS.

In the animal world we find the process of reproduction carried on in a manner exceedingly analogous to that observed in the vegetable. In vegetables, it will be recollected, the ovule or nidus produced by the female organs remains in the place in which it is first formed, and the ripe grain becomes attached to the same spot at first occupied by the ovule, as already definitely described in the corn. In the animal world, however, on the contrary, we find that not only the sperm cell is transferred from the place of its origin, the same as in the vegetable, but that this nidus, which in animals bears the name of ovum* or egg, and corresponds to the ovule in the vegetable, also soon changes its situation from the place in which it is first formed.

In that order of animals called *oviparous*, which propagate their species by means of eggs, as insects, reptiles, fishes, and birds, you are aware that this egg is, when matured, expelled from the body, and requires simply a proper degree of congenial warmth to enable

* The word *ovum* is Latin, and means egg; and the word *ova* is the plural of *ovum*, and means eggs.

the embryonic cell, if one has been formed within it, to go on with its vital operations, and develop itself into the living and breathing animal The amount of nutriment contained within the egg is sufficiently large to supply the wants of the cell or embryo up to the time it is so far developed as to break forth from the shell It is then able to receive within its own digestive organs nutritious matter less elaborately prepared, and convert such food to the purposes of its own growth.

The *reproductive organ*, which gives origin to these ova or eggs, and which corresponds to the flower *producing the ovules* in the vegetable, is, unlike the flower, found situated within the body, and not externally. It is called the *ovary*, and, like the flower, is designed simply for the production of the ova. It has no other use, and thus far its office corresponds precisely to that of the flower in the vegetable ; but it does not, like the corresponding organ in the plant, retain the ova attached to itself after they have become fully matured. They are then entirely separated from its substance, and soon expelled from the body.

As we rise still higher in the scale of animal existence to the class called mammalia, or such as nourish their young with milk, we find the process of reproduction somewhat different from what it is in the lower

class—the oviparous—and, of course, we shall expect to find a corresponding difference in their reproductive organs. In this we are not disappointed. We here find within the body of the female two ovaries instead of one—one on each side of the body. They are small glandular substances; and each give origin to small, often very small, eggs or ova. These ova are entirely destitute of the shell, and of that portion called the "white," which constitutes so large a part of the eggs of birds. When they are fully matured, the ovaries expel them from their substance. Thus far the process in these two classes of animals is exceedingly similar; but in the mammalia, each of these ova, instead of being shortly expelled from the body, as in the lower orders, is, when expelled from the ovary, received into a small fleshy tube, which conveys it into another organ (also contained within the body) called the *uterus* or *womb.*

The tubes which convey the ova from the ovaries to the womb (for there are two of them, as well as two ovaries—one on each side) are called *Fallopian tubes* or *oviducts.*

The uterus (for there is but one in each individual) is situated midway between the two ovaries, upon the medium line of the body; so that if a line were drawn dividing the body into two symmetrical halves, the womb also would by this line be divided into two symmetrical halves. Its substance is composed of numerous

fine, short, muscular fibres, closely compacted together The Fallopian tubes may be considered as prolongations growing out of it, in very much the same sense that our arms may be said to be prolongations growing out of the body. In its central part is a small cavity. It is into this cavity that the ova are conveyed when they have become fully matured in the ovaries.

If now one of these ova contains an embryonic cell, it is retained within the womb, and the cell is at first nourished in its development by the nutriment there within the ovum prepared for it. But the amount is very small, and only suffices for a short time, till, by forming an attachment, by means of a placenta, to the inner surface of the womb, it is enabled to draw its nourishment somewhat directly from the system of the parent mother, in the same manner as we have seen the embryo kernel of corn does its nourishment from the parent stalk after it has consumed the nutritious matter contained within the ovule. Having this abundant source of supply, the embryo continues to develop itself within the womb, which, undergoing a corresponding increase of size, affords it ample room until it is sufficiently matured to derive its nourishment from food taken into its own stomach. It is then prepared for entering upon a still more separate state of existence, and is expelled from the body by the contractions which take place in the muscular fibres of the organ containing it.

I hope I have been able to make myself so far understood that you will now be fully prepared for what I shall have to say in my next in relation to the reproduction of the human species.

CHAPTER VI.

REPRODUCTION IN HUMAN BEINGS.

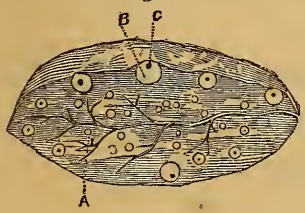
In the last chapter I informed you that the reproductive organs of the female in the highest class of animals—the mammalia—consist of two ovaries, two Fallopian tubes or oviducts, and one uterus or womb, and gave a brief description of each, and of its office.

The *ovaries* in the adult human female are oval, glandular bodies, about the size of a large almond. They are located within about one and a half inches of the womb; one upon either side of it, and about on a level with its upper portion. They are held in their places by the folds of membranes, called the broad ligaments, which help to hold the womb in its place. When a section is made into them, their structure is found to consist of dense cellular tissue, in which are imbedded usually from twelve to twenty small vesicles, varying in size from that of the smallest pin's-head to that of a large shot or a small pea—the smallest being near the centre, and the largest near the surface. These vesicles contain the ova in their various stages of growth. The ova correspond in office and function to the ovules in vegetables—each contains a germ cell and a quantity of nutritious matter.

Before the age of puberty, they may be said to remain in an inactive state; but after this age, until after the "turn of life," there are usually several constantly undergoing enlargement, and progressing in the different stages of development; and one, at least, that has arrived at, and is still remaining in that state of maturity, fitted for the formation, protection, and nourishment of an embryonic cell. It is now well known, also, that they are not unfrequently matured before any appearance of the menses, and that they sometimes continue to be matured for years after their returns have ceased altogether.

There is here (*Fig.* 3) represented a section made through the central part of an ovary, showing the manner in which the ova are found imbedded in its substance.

Fig. 3.



A, an immature vesicle containing an ovum or egg, as yet in an inactive state.

B, a vesicle which has become matured, and contains a mature ovum.

C, a mature ovum. It is on the point of bursting forth from the side of the ovary, as well as from the interior of the vesicle, to be conveyed into the cavity of the womb. One or more mature ova are usually carried into the womb at or about the time of each return of the menses.

The human ova, when fully matured, even, are exceedingly small. They are globular in shape, and have a diameter not exceeding that of the smallest-sized needle.

Each ovum, when fully formed, it will be recollected, contains a portion of nutrient matter, and also a *germ cell*, which, if joined by a *sperm cell*, these two cells are formed into one cell. This single cell so formed is the *embryonic cell.* It occupies the same place in the ovum at first occupied by the germ cell. It is a new individual being, having a full and entire life of its own, and immediately commences and continues to carry on its own development by the ordinary process of nutrition. It is well known that, in some instances, an embryonic cell is formed before the ovum leaves the ovary ; but it is probably most usually formed while it is in the Fallopian tube, or in the cavity of the uterus itself.

The *oviducts* or Fallopian tubes are, as their name imports, hollow organs, having a passage through their entire length. In *Fig.* 4 one is represented.

Fig. 4.

A A is a bristle passing through the tube.

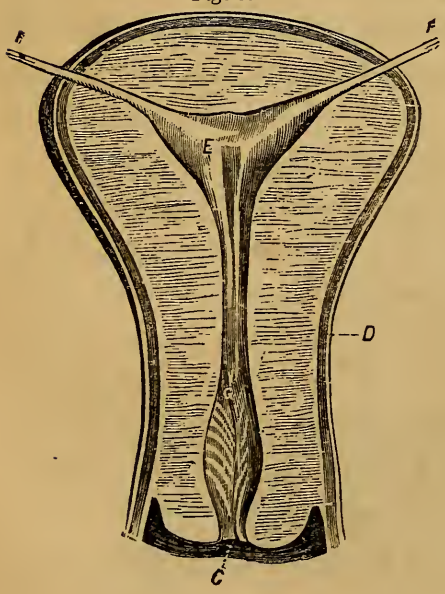
B, the inner surface of the uterus, a small portion of which is here to be seen.

C, the ovarian extremity, which receives the ovum from the surface of the ovary. This extremity is said to be fringed or fimbriated, because its walls terminate in numerous small, slender projections encircling the opening of the central tube. The office of these fimbria is to seize upon the ovaries wherever an ovum has become matured and projects from its surface. By this means the ova are received into the tubes when they burst forth from the ovaries. The ova are then conveyed by a peculiar provision, made for that express purpose, through the tubes into the uterus. The extremity of one of the fimbria of each tube is attached to its corresponding ovary, while all the others are loose, and perfectly free to move in any direction. This arrangement both keeps the extremity of the tube near to the ovary, and at the same time allows it to move about, so as to seize upon an ovum expelled from any part of its surface. The period of time occupied by the ova in their passage from the ovaries, through the Fallopian tubes into the uterus, is far from being fixed. There seems to be good reason for believing that, in some instances, it is accomplished in the course of a day or two, or perhaps even a less time; and that at other times it occupies a much longer period.

The *uterus* in the adult human female, when in its

natural unimpregnated state, is a pear-shaped organ, about two and a half inches in length, with its upper portion flattened from before backward, so as to be a little less than one inch in thickness; while in the other direction, *i. e.*, from side to side, it is a little less than two inches. Its substance is composed of numerous short, fine muscular fibres. In its texture it somewhat resembles the heart or the gizzard of the fowl. In the centre of the lowest or smallest end, corresponding to the place where the stem is inserted into the pear, there is an opening called the mouth or os tincæ. There is a small passage, ordinarily not much more than sufficiently large to admit of the free passage of a common knitting-needle, extending from this opening into the centre of the upper or largest part, called the body, where it expands into a cavity as large as a small chestnut. From each side of this cavity are the openings into the Fallopian tubes.

Fig. 5.



In *Fig.* 5 you have a section made through its largest diameter represented, showing its shape, the thickness

of its walls, the size and shape of its cavity, and of the passage extending from it to the mouth of the womb.

C, the mouth or os tincæ.

E, the triangular-shaped cavity in its centre.

F F, Fallopian tubes.

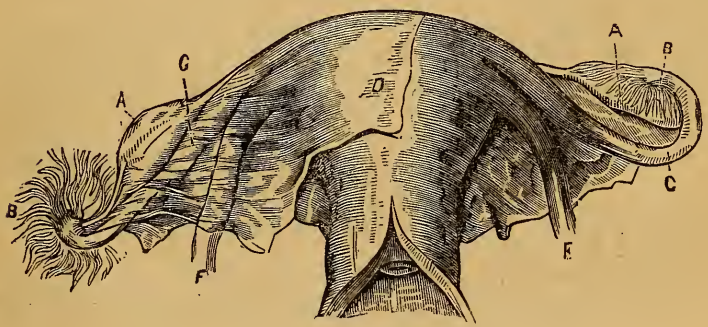
G, the passage from the cavity to the mouth.

Fig. 6 is here introduced, to illustrate (though this can be done but very imperfectly) the internal structure of the womb. The various layers of muscular fibres are to be seen upon different parts. It is by the contractions of those upon the upper part, while those encircling the lower part around its mouth are relaxed, that the size of its cavity is reduced, and the expulsion of whatever it may contain is effected.

Fig. 6.

In *Fig.* 7 you may see represented all of these organs, with their situation relative to each other.

Fig. 7.



A A, the two ovaries, one on each side of the womb.

B B, the fimbriated extremities of the Fallopian tubes, one of them being about to seize upon an ovum.

C C, the Fallopian tubes.

D, the womb.

F F, the round ligaments.

A portion of membrane is seen covering a part of the womb.

I have already spoken of the formation of the ovum within the ovary, and of its passage through the Fallopian tube or oviduct into the cavity of the womb. If it contains no embryonic cell, it sooner or later passes away unperceived; but if it contains one, the ovum is retained within the womb until this embryonic cell inclosed within it has developed itself first into what is termed a fœtus, and at length into a mature infant.

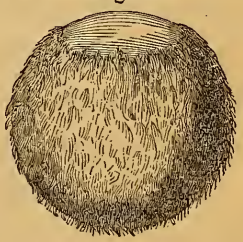
In the mean time, while the embryo cell is absorbing, and being nourished by the nutriment, contained within the ovum, it forms an attachment by means of a spongy growth (which is no part of itself, and which will presently be more particularly described), through one side of the ovum to some portion of the inner surface of the womb. It is thus enabled to draw its nourishment somewhat directly from the system of its parent mother, after the very small amount contained within the ovum has been exhausted, until its maturity and expulsion from the body.

At the same time that this process of development

and increase is going on in the embryo, there are corresponding changes taking place in the ovum containing it. Its dimensions become enlarged, and its investing membrane thickened, as well as expanded. That portion of its interior which is not occupied by the embryo becomes filled with a limpid, watery fluid, very nearly like water in its composition and appearance. In common parlance, it is called water. The womb also, of course, undergoes an increase of size proportionate to the increase in the dimensions of the ovum.

The outside of the ovum soon becomes wholly covered with a somewhat spongy substance, composed almost entirely of minute blood-vessels. As the ovum enlarges, this coating is found to cover only a part of its surface, as is here (*Fig.* 8) represented, and at length covers only a small portion of it.

Fig. 8.



Another somewhat similar substance is also formed adhering to and lining, at first, nearly the whole cavity of the womb, but subsequently it lines only a small portion of it.

These two substances soon become closely joined together, and constitute a portion of the *placenta*, by which the fœtus becomes attached to the inner surface

of the womb. The placenta may also be said to consist in part of the small branches of the umbilical cord. The umbilical cord has one of its ends inserted into the child at the navel. It contains one vein, which carries red arterial nutritive blood from the placenta to the child, to be distributed, and to afford nourishment to all parts of its system; and of two arteries, which convey the dark venous blood from the child back again to the placenta, there to be purified and rendered nutritious.

In the mature infant, these blood-vessels, at the distance usually of eighteen or twenty inches from the child, branch out much like the roots of a tree, and form a thick congeries of minute vessels, constituting a large portion of the placenta.

It is in these minute blood-vessels that (by means of a wise provision made for that express purpose) the dark venous blood of the child is changed into arterial blood, just as the blood of breathing animals is changed in the lungs.

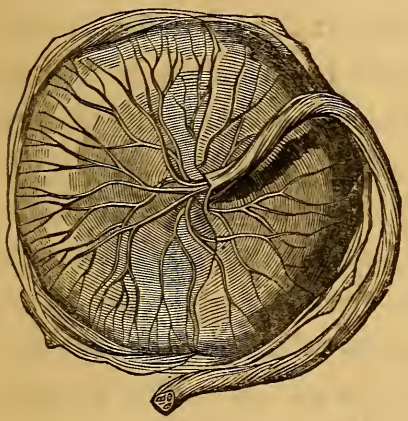
The minute vessels also perform the office of rootlets; they absorb nourishment from the blood of the maternal system for the support and growth of the child.

The blood itself does not pass from the system of the mother to the child, or from the child to the mother.

The placenta is circular in shape, having two flattened surfaces; it is from one to two inches in thickness in its central and thickest part, and six or eight inches in diameter. Its flattened surface, most distant

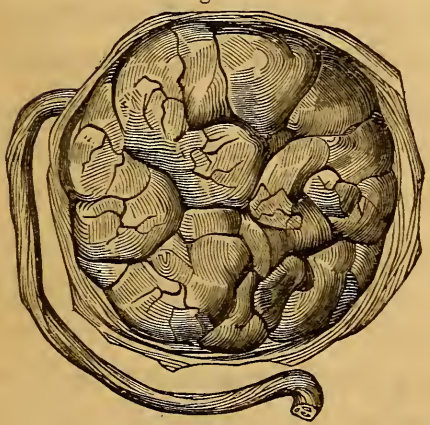
from the child, is closely attached, and adheres tightly to some portion of the inner surface of the womb. It is formed for a merely temporary use, and does not constitute in any proper sense a part of either the mother or the child.*

Fig. 9.



You have here a representation of the placenta and umbilical cord of a full-grown child. *Fig.* 9 is the side next to the child.

Fig. 10.



In *Fig.* 10 is represented the surface of the placenta, which is attached to the inner surface of the womb.

* The after-birth is composed of the placenta, the umbilical cord, and the membranes of the ovum, which continue to inclose the child up to the time of birth.

In all this, I think you can not fail to see the very numerous and striking points of analogy there are here exhibited to the process of reproduction as it takes place in the vegetable world, and as has been illustrated by a reference to it in the Indian corn.

In both, the germ-nourishing or female reproductive organs produce a small globular body called an ovule, or an ovum, as the case may be, which is in both instances a closed sac containing a cell of peculiar character called a *germ* cell, together with a quantity of nutritious matter, the whole constituting a nidus designed and perfectly fitted for the formation, protection, and nourishment of an embryonic cell.

In both, these ovules or ova, after coming to maturity, remain for some time in a state fitted for the performance of the office for which they were designed, and then, if no embryonic cells have been formed within them, they lose their vitality, and cease to exist.

In both, there is formed by the germ-producing or male reproductive organs another cell of a peculiar character, called a *sperm* cell.

In both, this sperm cell, when fully matured, is cast off from the place of its origin, and separated entirely from all physical connection with the parent.

In both, after it has been thus separated, it maintains an independent and separate existence while passing from the organs in which it has been produced to the interior of the ovum—the nidus prepared for its reception.

In both, if it fails to find its way into this nidus, it very soon perishes unperceived.

In both the one and the other, the ORIGIN—*the first beginning of the new individual*—is in the formation within the ovum of a single cell, by the union of these two cells—the germ cell and the sperm cell—into *one* cell, called an *embryonic* cell.

In both, this embryonic cell at first absorbs into itself a portion of the nutriment prepared within the ovum expressly for its use, and THUS COMMENCES ITS OWN DEVELOPMENT.

In both, during this early stage of its development, and while consuming the small amount of nutriment contained within the ovum, it forms an attachment, by means of a spongy growth called a placenta, to some part of the *maternal* reproductive organs, and subsequently derives its nourishment somewhat directly from the system of the parent mother or stalk. It thus becomes a sort of parasite upon the body of the parent, but not in any sort of sense an integral part of it.

In both, the nutritious matter, in passing from the system of the parent, through the placenta, to that of the embryo, is elaborated and refined by the action of the placenta, and thus fitted for its nourishment.

In both, the embryo or new being, during the time it thus draws its nourishment from the maternal system, remains inclosed within the membranes of the ovum, which expands and enlarges with sufficient ra-

pidity to afford ample room to the growing embryo it contains. It also has one of its sides closely attached to the body of the parent, and it is through this side that the embryo itself forms its attachment to the parental system.

I regard the following recent remark, made by the justly celebrated Dr. Meigs, as embracing the substance of all that is now known in respect to the *early* development of the sexes. "I consider that we are hitherto unacquainted with any facts that give convincing proof of a sexual nature in the germ.

"There is an embryonical stage of life in which it is utterly impossible to determine the sex of the embryo. And it is not known whether the female embryo proceeds from a germ originally female, or whether the germ, being in its inchoate state—neither male nor female—assumes the female nature in the progress of its evolution, or takes on the nature of the male under some law as yet unknown to us."

If we refer to what is known to occur as to the non-sexual nature of the larvæ of the bee, we may find arguments for the opinion that the germ originally is non-sexual, but becomes male or female under some unknown law of development in its earliest embryonal life.

You may have heard of the circumstance in the history of the honey-bee, to which I allude.

The community requires a queen—which means a creature having germ-nourishing organs—a female; and it also requires a number of drones, or *germ-producing* creatures—male members of the society—which being provided for the hive in question, nothing more is wanting but a sufficient number of working bees, or creatures without sexual development, capable of enjoyment, and able to provide for the conservation of the species by collecting food for the queen, for the drones, and for themselves.

Now all these—the females, the males, and the workers—are alike in the ovular state; but if the males die by some epidemic, a battle, or accident, the community know how to convert a sufficient number of the larvæ into males by administering to them certain sorts of food, while they leave all the others mere workers by withholding that kind of aliment. So, too, when a queen dies, after having deposited many thousands of eggs, the alarm and confusion in the hive are very extraordinary; but it subsides after the tumult of the first excitement, and the workers select some one egg for which they construct in the comb a *royal cell*, by converting three of the common cells of the comb into one, and then, by feeding the grub with an aliment called royal jelly, they cause it to pass into the female state; and thus the lost queen is succeeded by a queen pro-

duced from an egg that could only have developed a non-sexual creature or working-bee, but for the special influences brought to bear upon it, at this early period of its existence, from a *state* necessity.

If examined from three to four weeks from the commencement of pregnancy, the embryo will be found (*Fig.* 11) to have about the size of a grain of wheat. Its head constitutes its largest portion; its inferior extremity is slender, and terminates in the umbilical cord. The mouth is indicated by a cleft; the eyes by two black points.

Fig. 11.

Here, then, is a new individual being in an early, although not its earliest, stage of its existence. It is a Human Being. It is one of the human family as really and truly as if it had lived six months or six years; consequently, its life should be as carefully and tenderly cherished. Although it may seem to be a digression, I can not persuade myself to proceed further without first making a few remarks upon a matter to which I beg to call the particular attention of every reader. It is one of great practical, and even vital importance, and yet it is one that has not been at all well under-

stood by the community. Ignorance upon it has resulted in the commission of crimes of the greatest enormity.

I shudder when I think that women sometimes designedly endeavor to bring on abortion.

In order to do this, you perceive that the *life* of this human being must be destroyed.

Its life commenced at the time of the formation of the embryonic cell—at the moment of conception ; and no person has any right to destroy it by any means whatever.

Its destruction is wholly and entirely inadmissible, and whoever for the sake of gain, or for any other possible reason, designedly destroys it, excepting in cases (which very seldom occur) where it is certainly and indispensably necessary, in order to save the life of the mother, *commits a most awful crime, and will be called to give an account therefor at the judgment of the Great Day.*

Even in those lamentable and distressing cases where conception has taken place unlawfully, whatever and however aggravating may have been the circumstances, the destruction of the life of the fœtus is a thing never to be thought of.

The *life of this new human being is* SACRED, and no one but God himself either has, or can have, the least shadow of a right or liberty to take it away.

To destroy its life, for the sake of saving one's self from exposure and mortification, is but to add a greater

to a lesser crime. It is but to act the part of the man who, a few years since, being detected by an aged and feeble lady in stealing a small amount of property, committed that awful and infinitely more heinous crime of murder, to save himself from exposure.

I am aware that these remarks may strike upon the minds of perhaps most of my readers as new doctrines. But they are not new to well-informed medical men. The investigations of physiologists have established them as incontrovertible TRUTHS, *which should be known and felt, and regarded by every human being.* Every woman who reads these pages, especially, is bound to let them be known as widely as possible.

At forty-five days, the form of the child is very distinct, and it is now termed a fœtus. The head is very large; the eyes, mouth, and nose are to be distinguished; the hands and arms are in the middle of its length—fingers distinct; the limbs appear in the form of little tubercles, resembling the sprouts of vegetables.

At two months, all the parts of the child are present. The dark spots which represent the eyes are enlarged; the eyelids may be distinctly traced, and appear very transparent; the nose begins to be prominent; the mouth enlarges and opens; the neck shows itself; the heart is very much developed, and opaque lines are seen to proceed from it, which are the first traces of the large arteries and veins; the fingers and toes are dis-

tinct. Its weight is a little more than half an ounce, and its length is about three inches.

At three months, the eyelids are exactly closed; the holes of the ears and of the nose are distinctly visible; the lips are very distinct, and the mouth closed; the heart pulsates strongly, and the principal vessels carry red blood. The lungs are so small as to be scarcely visible; but the liver is very large. The bones have become formed and hard; the muscular system begins to be developed. Its weight is about one and a half or two ounces, and its length from five to six inches.

At four months, the head and the liver have both attained so nearly the size they will be at the expiration of nine months, that their size, *relatively* to the other parts, is from this period gradually and constantly diminishing. The bones and muscles have become so far developed that the fœtus moves them forcibly. Its weight is seven or eight ounces; length, eight inches.

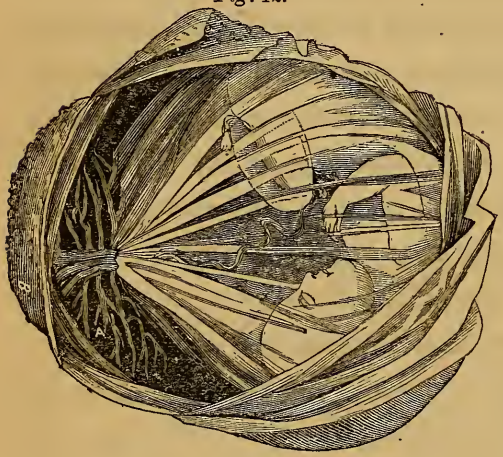
At five months, the muscular system and bones have become so well developed that the motions are no longer equivocal. Individual differences also begin to appear in the features, and the places for the nails are marked out upon the fingers and toes.

In *Fig.* 12 is one inclosed within the ovum, most of the external surface of which has long before this lost its shaggy coat and become smooth, and its inner portions transparent. The water also being transparent, the fœtus is seen through both after the outer lay-

ers of the ovum have been removed (for there are several membraneous coverings inclosing the contents of the ovum which may be taken off successively, but they lie in such close contact with each other that I have thus far thought best to speak of them as only one).

A, the surface of the placenta lying next to the fœtus. The large blood-vessels are to be seen branching off from the umbilical cord.

Fig. 12.



B, the surface of the placenta, which adheres to the inside of the womb. It is composed almost entirely of minute blood-vessels. No connection can be traced, however, between these and those of the womb; and yet it is certain that the nutriment for the fœtus is imbibed by them from the system of the mother. The umbilical cord has already been described upon page 102. It carries from the placenta the rich arterial nutritive blood, containing nutriment derived from the maternal system, to the fœtus for its nourishment, and the dark, innutritious, venous blood back from the fœtus to the placenta, to be arterialized and rendered nutritious. Thus the placenta is found to do for the blood

of the fœtus what the lungs and the digestive organs do for the blood of the eating and breathing person.

At one hundred and eighty days, or six months, the nails of the fingers and toes may be distinguished. A little fine hair is found upon the head, and the whole form of the child is distinct. Its usual weight is about two pounds, and its length twelve inches.

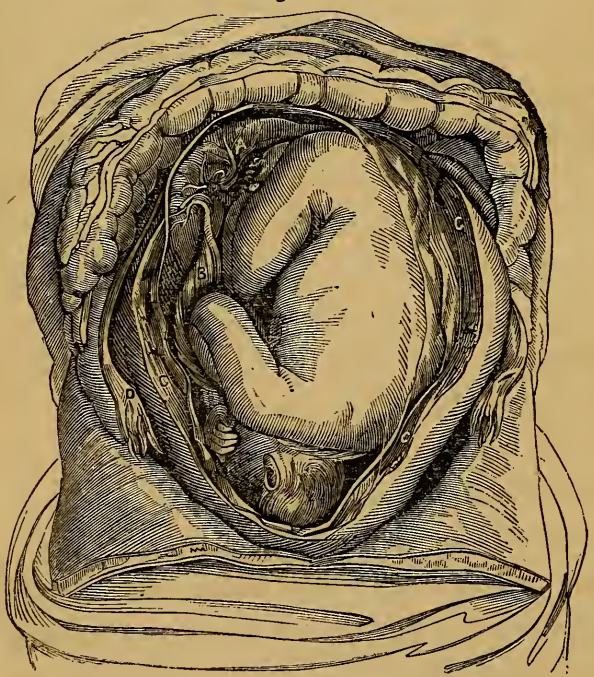
At two hundred and ten days, or seven months, every part of the fœtus is so enlarged, and so far matured, that, if born, it is able to breathe, cry, and nurse, and may live to grow up, if properly cared for. It is frequently too feeble to endure being either washed or dressed, and must necessarily sleep nearly the whole time, except for the short periods required for the taking of its food. Its power of generating heat within itself is also extremely feeble; it should, therefore, be kept wrapped in a warmed, soft flannel blanket, and laid close beside the mother, or held in the lap of some other person, in order that their warmth or animal heat may be almost constantly imparted to it.

It has been found that this animal heat is far more congenial to its nature than that imparted by fire.* If feeble, it should be neither washed nor dressed. It is sometimes necessary to delay these operations almost entirely for several days. Its weight is usually from three to four pounds.

* It is upon the same principle that chickens, and the young of all birds, require brooding.

In *Fig.* 13 is represented the appearance of the womb, and that of an eight months child within it. The abdomen is here laid open, and a portion of the front side of the womb has been removed in order to show the child. The position here occupied is the most usual and the most desirable, but it is by no means the invariable one. It is the most easy as well as compact that could be devised for a body of such bulk and irregularity.

Fig. 13.



A, a portion of the placenta.

B, the umbilical cord. It is seen here passing round

the neck. This is not very unfrequently the case; but it seldom does any harm.

C C C, the walls of the uterus.

D D, the Fallopian tubes. Their uterine extremities have been carried far up into the abdomen by the enlargement of the uterus.

The expansion of the cavity of the womb is by an absolute increase of its substance.

Its muscular fibres are greatly lengthened and enlarged. They are found to lie in such directions, and in such proportions in their various directions, as will enable them to operate the most easily and effectually in expelling the child from its cavity, and from the body whenever they are excited to contractions by the healthy laws of nature, at the expiration of the proper period of gestation, or by any other cause. When brought into action, they, like all other muscles, act only for a few moments at a time, and then a relaxation takes place, to be soon followed by another period of contraction. The alternate contraction and relaxation of these muscles is, like those of respiration, for the most part entirely beyond the control of the will. These contractions are very uniformly accompanied with more or less pain. Sometimes, however, no severe pain attends them, and the child is expelled almost before the mother is aware of there being any unusual action in the womb. The pain is, in some cases, as you may well know, much more severe than in oth-

ers. Its severity in each individual case usually corresponds, in some measure, to the force and strength of the contractions. Hence it is that slight pains are, not without reason, commonly regarded as doing little good, while those that are severe are looked upon as being very effectual in hastening the termination of the labor. Hence, too, the inability of the mother to control, by the action of her will, the time when labor shall commence, or the length of the intervals occurring between the times of the contractions, or, as the expression in common parlance is, between the "pains." Strong impressions upon the mind, however, will sometimes prevent for a time the commencement of labor, or suspend its progress after it has commenced; the same is effected by large doses of strong narcotics, such as opium. Chloroform and ether, on the other hand, have but little power to check the muscular contractions of the womb, while, at the same time, if taken in sufficient quantities, they entirely prevent all sensations of pain. When taken so largely as to produce entire insensibility, they do not appear to have any great effect to prevent, or even essentially to weaken the uterine contractions. During the early stages of labor, it may be doubted whether any effort of the mother can have any perceptible effect to hasten its progress; but, during the later stages, the abdominal muscles may be made to lend their aid.

At two hundred and eighty days, or nine months—

the usual period of birth—all the organs of the fœtus have acquired that degree of development and solidity requisite for the perfect performance of their respective functions. The bones are strong, and the muscular system well developed; so that the motions of the child are quick and lively. The heart pulsates rapidly, and the circulation is very active. The lungs are in a state to perform their proper functions. The eye is prepared for seeing, and the ear for hearing; and in every respect the organs, individually and as a whole being, are perfectly prepared for a more active and independent state of existence. The ordinary length of the child is from nineteen to twenty-one inches, and its weight from seven to nine pounds. There is a great difference, however, in both these respects, particularly in the latter; and often the size is influenced by causes not very easily explained. The average weight of males has been found to be one or two ounces more than that of females. Males are also longer, or, in other words, taller than females by nearly half an inch. Some children born at full time have been known to weigh less than five pounds, while others have been of nearly or quite double the average weight.

The muscles of the womb (heretofore perfectly quiescent), by some physiological law which we do not very well understand, are now awakened into activity, and, by alternate contractions and relaxations, in due process of time (strange as it may at first appear), effect

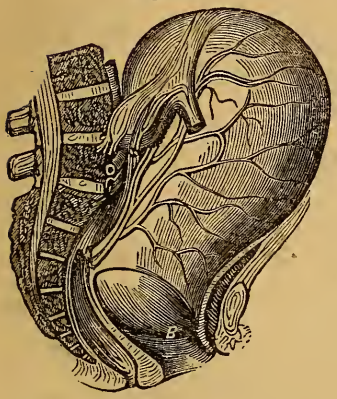
the expulsion of the child with surprising ease and safety. That this could take place without serious injury to either mother or child would seem to us utterly impossible, were it not a matter of daily observation; and in it we see most distinctly a manifestation of the wisdom, power, and goodness of our beneficent Creator.

Fig. 14.

In *Fig.* 14 is to be seen the appearance of the mouth of the womb in the early stages of labor. The mouth is now opened very considerably, and a cyst or sac is formed by the protrusion through it of a small portion of the membranes of the ovum, filled with a portion of the water in which the child has ever been enveloped, as already explained. This cyst is the best thing possible for dilating the mouth of the womb, and it is desirable that it should remain uninjured until that is opened to a very considerable extent. After that has been effected, the progress of the labor is *sometimes*, *but not always*, much hastened by the rupturing of the membrane, and the consequent pouring out of the waters therein contained. This is usually done spontaneously; and when done, it is said, in the language of the lying-in chamber, "the waters have broken." If not done spontaneously, it is *sometimes* the duty of the accoucheur to rupture the membranes; but, in other instances, the greatest care should be taken to preserve them entire.

You perceive here (*Fig.* 15) the "waters have broken," and the head of the child is just making its exit from the mouth of the womb.

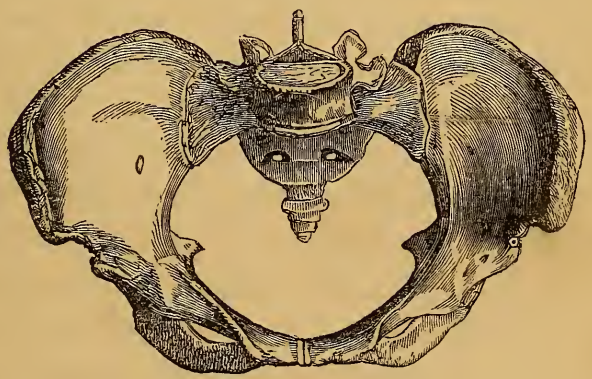
Fig. 15.



But I must not close this letter without first calling your attention to another provision made by our all-wise Creator, whereby the process of parturition is rendered much less severe, and much less dangerous to both mother and child, than it could otherwise have been made. I refer to the arrangement and condition of the bones of the fœtal head.

In *Fig.* 16 you have represented the bones of the

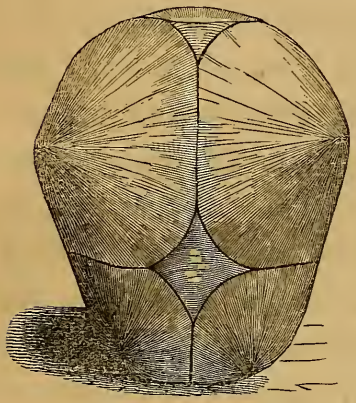
Fig. 16.



female pelvis, through the opening in the centre of which the child passes; and in *Fig.* 17 (on next page) are represented the bones of the fœtal head. You see

there are several of them as yet having no bony connection with each other, but are held in their places by the soft parts (*i. e.*, the fleshy parts). The bones are also thin and somewhat elastic, capable of being very greatly bent, especially near their edges. Upon the top of the head, and also upon the upper part of the back side, are places as yet entirely unoccupied with bone. This arrangement and condition of the bones very greatly facilitates the labor. The separate bones not only yield to the pressure made upon them, but are by it often made to overlap each other, and thus the shape of the head is changed and elongated during its passage through the pelvis. In such cases young mothers often feel much solicitude, lest the head may never become of proper shape again ; but there is no occasion for such anxiety ; the head always recovers its proper shape in the course of a few days.

Fig. 17.



CHAPTER VIII.

CONFINEMENT.

You will now be prepared to understand what I have to say in regard to what may be expected to take place, and also in regard to the duties of your medical attendant at the time of your confinement.

When your labor-pains commence in the manner I have already described (p. 61), no time should be lost in calling in your female friend, who may, perhaps, be able to judge, with a good degree of accuracy, in regard to the urgency there may be for the presence of your medical attendant. But if from any cause this can not conveniently be done, you should have him called without further delay.

In the mean time, you may either sit in an easy chair, or walk about, or lie down, as you find most agreeable to your feelings. You may, without injury, be attending to any domestic affairs that may seem to demand your attention, or engage in any other matters that may interest your mind. There is usually no occasion for sitting still or lying down at once when the pains first commence, as many do, and perhaps some are compelled to do. It is much better to keep about,

and busy one's self in some way as long as may be.

It is, in most cases, several hours after the pains commence before the mouth of the womb becomes sufficiently dilated for the "sac of waters" to be formed; and in first labors it is usually, but not always, much longer than in subsequent ones. You will, during this time, attend to the evacuation of water frequently; and if the bowels have not been very recently evacuated, it will be well to make use of a lavement (injection), if you have conveniences for so doing, so as to remove every thing from their lower portion.

Should the hour for your regular meal recur, you should refrain from taking more than a very small quantity of very light food. During the whole period of labor, very little nourishment should be taken, and that, if any, of the lightest kind. If there is thirst, cold water or warm herb tea may be taken freely.

When your MEDICAL ATTENDANT has arrived, his attention will probably be first turned to inquiries whether your general system is in a healthy condition. He may be able to satisfy himself upon this point without doing or saying any thing that shall indicate to you that his thoughts are turned in that direction; but he may have occasion to feel your pulse, to look at your

tongue, and examine the state of the skin. He may also have occasion to ask a variety of questions relative to yourself.

It is desirable that he should know as much about the state of your general system as it is possible for him to know, in order that he may adopt such measures as are best calculated to preserve you from a protracted and severely painful labor, and to render your confinement as speedy and easy as possible.

You may be in danger of convulsions or of fatal apoplexy, either during labor or soon after its termination; and if so, he will make use of such means as are best calculated to preserve you from such, or any other lesser evils that may threaten you. I hope, therefore, that you will be perfectly free to communicate with him in reference to any such matters as he desires, and, without hesitation, mention any thing you may think it proper for him to know.

It will probably not be long after his arrival before it will be advisable for him to make an EXAMINATION, in order that he may know positively the state of the womb and the actual position of the child. It is of importance that this should be attended to at an early period, otherwise he may be the means of much evil, by remaining an idle spectator while he ought to be acting. When he deems it the proper time, he will

inform you himself, or will do so through your female attendant.

In order for this examination, you will lie upon your *left side*, with your back very near to that side of the bed which will be at your left hand as you stand at the foot facing the head-board. Your limbs should be flexed forward upon your body, with the knees bent about as they naturally are when you lie upon your side, and a small pillow should be rolled up and placed between your knees. While occupying this position, with the bed-clothing spread over you, the examination may be conveniently made without any exposure of your person.

Now, although he may learn by this means that you will have no further occasion for his presence for some hours perhaps, and, therefore, that he may with safety be absent upon other duties that may be pressing upon him; and although he may thus relieve you also from the tedium of waiting hour after hour, in constant and anxious expectation of the completion of your labor, and from no trifling amount of solicitude on account of the delay;* yet, if the parts were never found deform-

* Anxiety on account of the length of time a labor may continue should never be indulged. Some labors are short and others long from causes that are entirely beyond our knowledge. If the position of the child is right, protracted labors, if not *injudiciously interfered with*, are no more dangerous than short ones. First labors are generally longer than subsequent ones; but this is not always the case.

There are good reasons why questions in regard to the time when

ed, nor dry, painful, and unyielding; if the top of the child's head was always the part which presented itself first at the mouth of the womb; if the head was never too large to pass through the bones of the pelvis; if neither an ear, nor the face, nor the chin, nor the back of the neck, nor a shoulder, nor an elbow, nor a hand, nor the back, nor a side, nor the belly, nor a hip, nor a knee, or other part except the top of the head, was ever the first to present itself there; if the umbilical cord never came down first; if the placenta was never attached over the mouth of the womb, or very near to it, so as to produce dangerous flooding in the early stages of labor; besides a great many other *ifs*, this examination might not be considered as absolutely necessary.

So, also, I might here add, if the general system was never deranged in the ways already named, or otherwise; if the mouth of the womb and the parts about it were never irritated, dry, rigid, and unyielding; if neither the umbilical cord, nor any part of the child, except the top of the head, was ever the first to present itself at the mouth of the womb; if there was never a disproportion between the child's head and the passage through the bones of the pelvis; if the placenta never became lacerated, so as to endanger the life of the patient by bleeding during the early stages of labor; if

the labor will terminate should never be pressed upon the medical attendant.

it never adhered to the walls of the womb after the child has been expelled; if the womb never failed to contract with a due degree of efficiency, neither more nor less; if the "sac of water" always spontaneously ruptured at the proper time; if the mouth of the womb relaxed readily in the early stages of labor, and contracted properly after its close; if the womb never contracted in the centre like an hour-glass, holding a part or all of the placenta in its upper portion; if the bladder never became distended so as to endanger the life of the patient; if none of these incidents, nor any of the numerous others that I have not named, ever occurred, then the services of a well-educated and skillful medical attendant might very properly be dispensed with, and the whole matter of parturition might be intrusted to the unaided and undirected powers of nature, and the mother would need no other assistance than such as could be rendered by almost any one who might be present.

But inasmuch as each and all of the things above named, as well as many others, are to be looked out for, and guarded against or removed, or their evil consequences mitigated, each at the proper moment and in the proper way, I think you can not fail to agree with me when I say that no false modesty should be allowed to throw the least obstacle in the way of the due performance of the one, or of your securing to yourself the services of the other.

Still, the remarks contained in the third chapter respecting the safety of labor under proper and judicious management are strictly true, and can be relied upon with implicit confidence.

Happily, deviations of a serious character comparatively seldom occur. And whenever they do occur, the well-qualified medical attendant is usually able to detect them at a very early period; and, doing so, is able to put in operation such measures as will, in almost every instance, prevent fatal, or even severely distressing consequences.

But to return from this seeming digression to the events of your lying-in chamber. After this first examination, if all things are found in a favorable condition, the *subsequent duties of your medical attendant* will be to watch carefully the progress of events, and, in case of any threatening evils, to adopt such measures as shall be best calculated to avert them. In doing this, he will have occasion to repeat the examinations from time to time, till the close of labor.

He may do much, and *often very much*, in a quiet way, and unobserved by yourself or any one present, to render your delivery more speedy and less painful than it would otherwise be; but it will be out of my power to point out definitely what events may occur, or what remedies will be demanded in any given case, and I will not attempt it.

I would have you submit yourself to his direction, with the confident expectation that all possible aid will be rendered by him, and all in due time. While under his immediate care, you can receive little aid from any thing that I can now say; that is, if he is a man qualified for his place.

It is possible, however, that, from some unforeseen and unavoidable cause, *you may* FAIL OF HAVING THE SERVICES OF A MEDICAL ATTENDANT at the time of your confinement. If it should be so, you may continue the course in regard to moving about, &c., I have already pointed out to be pursued before his arrival, until your pains become so severe that you feel indisposed to move about longer, or you begin to feel a disposition to "bear down" during each pain.*

* It has been very truly remarked by a physician of large experience that "a patient may almost determine for herself whether it is necessary for her to keep to her bed or not." What is called the first stage of labor is by far the longest usually, the pains being short and far between, becoming longer and more frequent as the stage advances, but unaccompanied by any disposition to *bear down;* the latter circumstance being the striking distinctive mark between those of the first and second stage. Now, so long as the pains are not bearing down, the patient may keep about, and with advantage.

But during this time, perchance, she will be importuned by the attendants "to bear down forcibly;" that is, to exert the muscle under the power of the will in forcing downward. This is a very bad prac-

After this time, you will do well to *keep your bea* most, if not all of the time; you may, however, get up and sit for a few moments at a time, if you feel disposed.

It is quite probable that about the time the mouth of the womb is rapidly becoming fully dilated, so as to admit of the exit of the child's head, you may feel a considerable degree of nausea, and perhaps may vomit once or twice. The labor is always found to proceed rapidly during this sickness whenever it occurs. It will not, probably, continue long.

After it ceases, and the head begins to press upon and to dilate the parts below the womb, the pains will become harder and harder, and more and more frequent. If you have not before this time, you will now probably begin to feel a disposition to hold your breath, and bear down whenever the pains recur: you may do so.

You may also feel disposed to press with your feet against the foot of the bedstead, and to take hold of the hands of some of your assistants, and pull at the

tice; to do so greatly fatigues the patient, but does not expedite the labor. She will soon be *obliged* to bear down, and *then* it will be useful.

At this period, too, the female's mind is often depressed by being told, through the whispering of some *kind* friend, that her pains do no good. This, however, is not the fact. The pains may not be so effectual as we might wish them to be, but every parturient throe during the first stage, however slight, is useful in forwarding the process

same time that you press against some solid substance with your feet: you may do so. You may very likely wish to have some one press hard against the lower part of your back during every pain; and this, also, may be done. All these feelings may be experienced in some measure before this time; but, if so, they will now, no doubt, be greatly increased.

As the labor draws near to a close, you may very likely feel that you shall never live to see the end. I believe that nine out of ten women suffer more or less from such depression of spirits at this stage.

If you have such feelings, do not indulge them; but keep up good courage. They will soon give way to a feeling of strength, and of ability to help yourself by bearing down, holding your breath, pushing with your feet, and pulling with your hands. Your pains, however, will, in all probability, be harder, and continue longer than any you have yet had.

Up to this time you can lie upon your back or upon either side, as you like best, from time to time; but now you should lie upon your left side, with your back near the edge of the bed, and retain this position until after the child is born.

In due time, a long and hard pain will expel the head of the child from the body. *One of your attendants* should now receive the head upon one of her

hands, and support it, so that its weight will not be sustained by the neck.

She should also now ascertain whether the umbilical cord is wound around the child's neck, and if it is so, she should endeavor to loosen it, so as to slip it down over the shoulders; but this must be done with great care, and without the exertion of much force upon the cord. If she can not do it easily, she should desist from further attempts.

While in this condition, you may have a long interval of rest before the recurrence of another pain, and your attendant may be frightened because the child does not breathe: but she has no occasion to be so, inasmuch as the child has never yet breathed, and the circulation is still carried on through the umbilical cord and the placenta.

Soon another pain will expel the remainder of the child. At this time your attendant will very carefully bear the head upon the palm of her right hand, and convey it downward away from your person, just so fast as is necessary to make room for the advancing body.*

She will now place the child's head in a position

* If the membranes have not been ruptured, and the child is born still inclosed within them, as is sometimes the case, they should be immediately ruptured, either with a pair of scissors or the fingers, and the child removed from this perilous inclosure. If this is not done, the child can not breathe, and must soon die from suffocation.

where it will rest easy, and have no obstruction in the way of its breathing. It will very soon begin to breathe, and perhaps cry. This first cry of the child often has a powerful effect upon the feelings of the now exquisitely happy mother.

When the infant is born, and the function of respiration is well established, the beating of the artery of the *umbilical cord* will cease; it will cease first in the part most distant from the child. It may then be *tied in two places*, one about one inch from the body, and the other two inches further distant from the child. This should be done with a small, strong ligature, passed two or three times around it, *tightly drawn*, and tied in a hard knot. The umbilical cord may then be divided with a pair of scissors midway between the two ligatures. All this should be done under the bed-clothing.

The child is then to be carefully taken out of the bed, and wrapped up closely in a soft flannel blanket, well warmed.

In the course of from fifteen to thirty minutes your pains will again commence for the *expulsion of the* AFTER-BIRTH; you may then bear down, and probably before you have had many this will be effected.

There is an impression upon the minds of many women that it is necessary for some one to hold the umbilical cord in their hands all the time after it has been separated from the child, until the after-birth has been expelled; but there is no occasion for this if a ligature has been tied around it, as I have directed, to prevent its bleeding.

Sometimes it does not pass off under several hours, unless removed by other means than the contractions of the womb: but it is a delicate matter for a person not well instructed in the business to attempt to remove it, and I would have you decline the services that may be proffered you for its removal by any but experienced hands. It will be much better for you to wait many hours for the efforts of nature to remove it, than to run any risk of injury from its forcible removal by any but a skillful accoucheur.

After its expulsion, or, if this is not accomplished in the course of half an hour, a warmed napkin should be placed upon the parts, and the pillow removed from between the knees. You may now lie upon your side and rest a while, or, if you choose, you may turn slowly over upon your back to rest.

Immediately after the birth, it is proper that you should have a *folded towel or other broad bandage* placed around your person and fastened, so as to afford

a firm and even support to the whole abdomen. Of course, it must extend down so low as to encircle the hips, and be drawn with a considerable degree of tightness, but not so as to be in the least uncomfortable.

In the course of a few hours it may be well to have this temporary fixture exchanged for a band made expressly for the purpose. This band should be constructed for being fastened directly in front with lacings (and not with pins), and the eyelet-holes upon each side should be within an inch or less of each other. If they are much further apart, it will be more difficult to keep the garment in its place.

When first applied, the two ends may not come together by several inches. Several thicknesses of a smoothly-folded napkin should be laid upon the bowels beneath the lacing. The lacings should be kept drawn just so tight as to conduce most to your comfort, and will be found, particularly for the first few days, to require frequent attention, on account of the rapid diminution of the circumference of the bowels.

This band may be worn either over or beneath the ordinary under garment, as most agreeable. If, however, there is found much difficulty in preventing it from slipping or rolling up around the waist, as there sometimes is, on account of the peculiar form of the person, it will be found most convenient to have it beneath, and then well-constructed bands passing between and partly around the limbs, will remove all further

trouble from this source. Of course, it should be readjusted, or exchanged from time to time, as occasion may require.

The use of this fixture will be particularly serviceable to feeble women, and also when the patient suffers from faintness immediately after delivery. As this faintness, in most instances, arises from the too sudden removal from the abdominal cavity of a large portion of its contents, the proper application of the band, as above directed, will remove it almost immediately.

Very many women, however, particularly those who are healthy and vigorous, do not experience any of this faintness or other uncomfortable feeling arising from this cause. In such cases there seems to be no necessity for its use.

Still, there should in *all* cases be one ready at hand for use if required, and nearly every woman who has made use of it, *well fitted and well applied*, will testify to the support and *comfort* it affords. Its use may be omitted whenever the patient finds no occasion for its further use; it is the popular belief, however, and probably with at least some degree of reason, that if it is continued for several weeks, it has a very happy effect in preserving the natural form and dimensions, particularly in the case of those women who have many children in quick succession.

As soon as you are able to be DRESSED, but not until about an hour after the birth, you may have the napkin removed, and such parts of your person as require it washed in warm, soft water, or milk and water, and another napkin applied and fastened in the usual manner.

This operation should, for the first few days, be repeated every few hours, and afterward as often as seems necessary for your comfort, until you cease to require the use of them, which will probably be from three to six weeks.

Such of your *clothing* as has become soiled should also be exchanged for other garments that have been well aired and warmed. As soon as this is all accomplished, you may *be placed upon the bed* you are to occupy, and which in cold weather should also have been well warmed.

But you should allow your attendants to do all these things for you, even if you feel perfectly well able to exchange your own clothing; and especially you must avoid exerting yourself in aid of those who are placing you upon your bed. And, above all, you should not presume to bear any weight at all upon your feet, or to assume any but a recumbent posture for several days after your confinement.

If you are still to occupy the same bed, the clothing may all be exchanged upon one side while you lie upon the other, and then you can be removed to that side,

leaving all the soiled clothing and bedding to be removed, and the other side of the bed to be arranged afterward.

Sometime within an hour or two after the birth, you will be likely to experience more or less of a CHILL *passing* through your whole system. If it be severe, the washing and dressing (if it has been commenced) must be suspended. You should be covered with additional blankets, well warmed, and drink a cup of hot penny-royal or ginger tea, or a few drops of tincture of camphor in a cup of hot water, and remain quiet until it has passed off. Your attendants can then proceed with their work of washing, dressing, &c.

Your lying-in CHAMBER MAY BE OF SUCH TEMPERATURE as is most agreeable to your feelings, until very near the close of labor, when care must be taken to have it well warmed.

The thermometer should be made to stand as high as from 80° to 85°, and this temperature should be maintained during all the time required for the washing and dressing of yourself and child; that is, from the moment of its birth until you are both well placed in bed, otherwise you will both be unnecessarily exposed to sickness from taking cold.

As soon as this is accomplished, the temperature

should be gradually moderated, so that by the next day the thermometer may not stand higher than 73°; and subsequently, it should be constantly kept at some point between that and 67°.

Care should also be taken to have your room *constantly well* VENTILATED and WELL LIGHTED.

Till the middle of the last century, it used to be the practice to exclude, as far as possible, every breath of fresh air from the lying-in chamber; to put sand-bags under the chink of the door; to nail the windows round with list, and take every possible precaution to oblige the inmates to breathe over and over again the same vitiated atmosphere.

In addition to this, the woman was obliged to have her system constantly stimulated with spices and cordials.

A more sure method of exciting fever could scarcely be adopted; and it is not at all wonderful that inflammatory, typhoid, miliary, and other fevers were in those days rife.

We can only be astonished that in any case Nature had the power to avert the dangers which such an interference with her laws and subversion of her intentions must have created.

And yet so firmly established was the idea that such

treatment was the most safe and beneficial of any that could be adopted, that, notwithstanding all intelligent physicians throughout the civilized world have been fully convinced to the contrary, and have been exerting their influence in favor of well lighted, well ventilated, and quiet apartments, and a very light and unstimulating diet, for certainly more than half a century, and many of them for a much longer period of time, they have not been able as yet to set the community fully right in regard to these matters.

Judging from the remarks of British and American writers, it would appear, however, that we have made more advances toward this than our English neighbors have done.

They continue still to complain that, "even in the midst of summer, the curtains are often found drawn close around the bed, and a fire in the chamber; and when the finger is laid upon the pulse, it is observed to be quickened by the application of the external heat, while, at the same time, a profuse perspiration bedews the skin." And that "it is a frequent, but very injurious practice for nurses, for several days after delivery, to keep the bed-room curtains drawn close, to increase the number of blankets, and to be continually giving every thing as hot as it can be swallowed, deluging the patient's stomach with water-gruel and slops, with a view to promote perspiration and prevent her taking cold.

"This is the most direct way to produce the evil so much dreaded; for it follows, as a natural consequence, that by these means she is rendered more than ever susceptible to the impressions of cold—is sure to be debilitated, and a troublesome species of fever will be induced which it may be found difficult to remove."

Still, it is no very uncommon event for us to find the nurses attending upon our patients, in some degree under the influence of similar impressions, and consequently our patients suffering more or less from the deleterious effects of a confined atmosphere and overheated apartments.

Not only should your room be kept of a proper temperature, and well ventilated, but it should also, for the first week at least, be kept *entirely free from all* VISITORS, *and other causes of excitement*, of either body or mind. No person should be admitted but those whose assistance is absolutely necessary, and for the most part of the time only one should be in the room with you. This will enable you to keep your room so perfectly quiet as not to interfere with your sleeping at any time you feel disposed.

On the evening of the second or morning of the third day, or from sixty to seventy-two hours after confinement, some APERIENT *or mild purgative* should be taken. This is always advisable, even if the bowels have been moved previously. One or two free movements will be sufficient; more might be injurious. Castor-oil is the medicine most usually taken; and there is none better. On such occasions, half a tablespoonful may be taken, and the same dose repeated after four or six hours, if necessary.

It will be advisable for you to lie QUIETLY IN BED for one, two, or three weeks, more or less. The length of time will depend very much upon the amount of flow or discharge, called lochia, there may be kept up from the womb, as well as upon your general health and strength.

For the first eight or ten days you should constantly preserve a recumbent posture—not even sitting up to have your bed arranged, but satisfy yourself with being moved daily, or oftener, from one side of it to the other.

After about ten days, you may be seated in an easy rocking-chair for a short time daily; but, as a general rule, women ought not to bear their weight upon their feet under twelve or fifteen days from the time of their confinement.

There is a very great difference, however, in them in regard to the rapidity of their recovery. Many are better able to stand upon their feet within eight days than others are within three weeks.

No woman should venture upon doing so until she ceases to be under the necessity of using more than one napkin during the twenty-four hours. If she does, she runs too great a risk of inducing local displacement, or other trouble of a serious character, from which she may not recover for many years. When, after the first ten or twelve days, she finds that one napkin will serve her necessities *perfectly* from morning till night, and that her strength is sufficient, she may begin to walk about the room, and may daily increase her exercise of this sort as she finds herself able to bear it, *taking special care, however, not to attempt too much.*

This is a subject of great importance. A great many women, by attempting too much, induce local displacements, or other serious disease in themselves, from which they do not entirely recover for years.

While lying in bed, they may feel perfectly well able to get up and walk about, many days before it would be safe or prudent for them to do so.

No woman should consider herself as entirely recovered from her confinement until after the expiration of at least six weeks. The Jewish women were required to continue the "days of their separation" for that

length of time; and it is believed by physicians of the largest experience, that much ill health would be avoided if the same rule were always followed.

About the third or fourth day after confinement, you may expect your *breasts* to become much distended with milk. They may be hard and painful; but if the milk is drawn out of them frequently, either by the babe, or by your nurse, or by some other means, and you have been careful to refrain from any but a very small quantity of the lightest kinds of food, you will probably not be very much troubled in this way.

At this time, however, you must expect to have something of a chill, followed by more or less *headache and fever—called the* MILK FEVER*—for a day or two, when it will pass off, and then you may begin to eat a little more and more every day as you find you can bear it, and be benefited by it.

But, from the time labor commences until this fever is past, none but the lightest articles should be taken. Yet a little may be allowed, enough to relieve any feeling of faintness that may arise.

For the first few days, it is well that the diet should

* At this time there will probably be a less amount of flow from the womb for a day or two.

consist of gruel, soft boiled rice, soft toast, toasted cracker and tea, or other equally light articles.

The above directions are particularly applicable to cases occurring in New England, and in all the older settled and mountainous parts of the country.

In the Western and Southern States, particularly in all ague districts, many cases will occur where a much more nourishing diet will not only be well borne immediately after confinement, but will be found absolutely necessary for the best good of the patients.

While practicing in the northern part of Ohio, I met with many such cases. I sometimes was obliged to put my patients upon a diet of beefsteak and other articles of the most nourishing character, within two or three days after confinement.

In some instances I also found it necessary to give quinine and other tonic remedies before the milk would be secreted. In these cases there was no perceptible "milk fever."

CHAPTER VIII.

REGIMEN OF THE NURSING MOTHER.

In order to *prevent the nipples from becoming sore*, you should, each time immediately after the child has done nursing, have them well washed with soft water, to which a little spirits may be added, and then they should be carefully wiped with a soft linen towel till *perfectly dry.*

After this has been done, they may be dusted over with some good hair powder, or finely pulverized starch. It may be well, also, to have them exposed for a few minutes to the air after each washing and drying; and they *must never be pressed* down upon the breasts by the clothing, or other means.

If you will pursue the course recommended in my third chapter to be pursued, previously to the time of confinement, and after it pursue the course above pointed out, you need entertain no fears of this trouble, which is so apt to afflict young mothers so severely. I have never known one who has taken these precautions to suffer seriously from this cause.

In the directions already given respecting the proper care of the breasts and nipples, you perceive *I have taken it for granted that you will* NURSE YOUR OWN INFANT. It seems hardly necessary to remark that there is no substance in nature, or susceptible of being prepared by art, which forms so congenial and wholesome a nourishment, during the early periods of infancy, as that which is secreted in the mother's bosom. Nor need I tell you that the mother ought never, except in cases of imperative necessity, to delegate the suckling of her infant to others.

This sacred office should rest with her alone. It is an irremissible duty, which can never be neglected or put off without contravening the wise and benevolent arrangements of Providence.

It has been justly said that the mother who commits the suckling of her infant to another, while her own breasts are ready to furnish an ample supply of milk, can hardly possess an amiable and moral heart.

It is, indeed, a most extraordinary circumstance that a duty which is so strongly enforced by the commands of nature, and which is connected with so many delightful and hallowed sentiments of the maternal heart, should ever be voluntarily relinquished, and it is never done without subjecting both mother and child to great liability to injurious consequences.

But I need not pursue this train of remark. Your own good feeling will prevent your ever being guilty

of such neglect, and your own good sense will enable you to perceive the evils that might come upon a child submitted to the care of a hireling nurse, and will lead you to be exceedingly careful in regard to her character, should you be compelled to employ one.

It seems pertinent here to remark, that the proper performance of this most agreeable duty may impose upon you the imperative necessity for being particularly *careful of your own* DIET *during the time you may be giving nurse to your babe.*

The articles eaten will have more or less effect upon the quality of your milk. There is a great difference in mothers, however, in this respect, and in some instances in the same mothers, at the times of nursing their different children.

Some are able to eat with as much freedom whatever they desire as at any other period of their lives, without any prejudicial effect upon their milk; while others are obliged to exercise the greatest caution, and sometimes self-denial on this account.

I have known some mothers whose milk was affected by apparently the most trivial deviations in their diet; as, for instance, the eating of only the smallest bit of a sour apple would be followed uniformly, in the course of a few hours, by indisputable evidences of colic or griping in the stomach of the child.

Between these extremes there is every conceivable degree of gradation of susceptibility to such influences. Every mother should therefore, as she values her own peace and ease, and her child's happiness and health, exercise all due care against evils of this kind. Any momentary gratification of her appetite will be dearly paid for by the distress, and, if no more, temporary illness of her babe.

Sour articles, such as pickles, tarts, and acid fruits of all kinds, are liable to produce this effect, and more frequently do so than any other articles. Sometimes cheese will do it, and sometimes a drink of cold water, but no rule can be laid down in regard to specific articles, and each person must determine upon them for herself.

It will be wise, therefore, for you to be cautious in regard to any of the articles above named after your confinement, and for a time to refrain from their use entirely; and when you *first* use them, if you do so at all, observe carefully any effect they may have upon the babe.

I am aware that you may feel yourself to be much more restricted in your diet than would be most agreeable; but you will soon learn that bread, in its almost endless variety of forms, is the staff of life, and that simple, plainly-cooked flesh meats answer extremely well for a relisher. Those who are fond of milk will find that, also, to be an excellent article of diet.

The mind *too should be kept in a quiet and happy state with the most assiduous care*, inasmuch as the quality of the milk is very liable to be injuriously affected by any unpleasant excitement of the feelings, or other causes producing a more constant and continued state of unhappiness. Nursing women should be always calm, cheerful, and happy, if they would have their babes healthy, quiet, and good-natured.

No secretion so evidently exhibits the influence of the depressing emotions as that of the mammæ.

But this may be partly due to the fact that the digestive system of the infant is a more delicate apparatus for testing the qualities of that secretion than any which the chemist can devise; affording proof, by disorder of its functions, of changes in the character of the milk, which no examination by the chemist of its physical properties could detect.

The following remarks are abridged from Sir Astley Cooper's most valuable work upon the breast: "The secretion of milk proceeds best in a tranquil state of mind and with a cheerful temper; then the milk is regularly abundant, and agrees well with the child. On the contrary, a fretful temper lessens the quantity of milk, makes it thin and serous, and causes it to disturb the child's bowels, producing intestinal fever and much griping.

"*Fits of anger* produce a very irritating milk, followed by griping in the infant, with green stools."

GRIEF *has a great influence on lactation, and consequently upon the child.*

The loss of a near and dear relative, or a change of fortune, will often so much diminish the secretion of milk as to render adventitious aid necessary for the support of the child. *Anxiety of mind* diminishes the quantity and alters the quality of the milk.

The reception of a letter which leaves the mind in anxious suspense lessens the draught, and the breasts become empty.

If the child be ill, and the mother is anxious respecting it, she complains to her medical attendant that she has little milk, and that her infant is griped, and has frequent green and frothy motions.

Fear has a powerful influence on the secretion of milk. I am informed by a medical man who practices much among the poor, that the apprehension of the brutal conduct of a drunken husband will put a stop for a time to the secretion of milk.

When this happens the breast feels knotted and hard, and yet flaccid from the absence of milk, and that which is secreted is highly irritating, and some time elapses before a healthy secretion returns.

TERROR, which is sudden, and great fear, instantly stops this secretion.

Not only may the quality of the milk be seriously affected by mental influences, but the *quantity may often be very materially increased* or diminished, through the influence of the *various articles of food.*

But whenever it is desirable to increase the quantity, it is far from being a matter of indifference by what means it is accomplished, since some articles of diet will do this most effectually, but will produce an article of pernicious quality.

Many women are able to increase the quantity of their milk by the free use of good black tea, or prepared cocoa or shells; others do so by a liberal diet of beefsteak, or lamb, and other nourishing, but plainly-cooked articles of food, together with a suitable amount of gentle exercise in the open air, and maintaining constant cheerfulness and good humor.

Others, in connection with the above measures, derive great benefit from the use of quinine, or some of the preparations of iron or other medicines calculated to increase the appetite and the activity of the digestive organs.

A small tea-cupful of a bitter ptisan (made by steeping an ounce of gentian or Columba root in a pint of water for half an hour, and, when cool, adding half a drachm of carbonate of potassa), two or three times a day, often operates admirably, especially when the child is troubled with griping pain in its bowels.

These medicines are, however, comparatively seldom

called for in the New England States; but in the Western and Southern States, especially in those parts where the fever and ague prevail, they are often of incalculable benefit.

Whenever the quantity of milk can be increased by any one or more of the above measures, it may be done without any risk of injury to its quality.

But the use of spirituous or fermented articles of drink of any and all kinds are extremely improper and injurious.

They may, and often will, greatly increase the quantity of milk, but they are very liable to injure its quality. The child may seem to be thriving nicely for a time, but will be in great danger of being severely afflicted with some form of cutaneous disease, or something worse, before it is two years old.

One of the very worst cases of cutaneous disease in a child I ever saw was caused in this way. The mother drank porter or ale, one or both freely, while nursing; the child grew very fast and very fat, but such a sight as it after a while presented I never wish to see again.

If you do not have milk enough for your child, and yet have some of good quality, you may endeavor to increase it by some of the means above named, if you are *certain* that you are free from even the least degree of fever, your tongue clean, and your pulse soft, but not otherwise.

Or, better still, if you have the approval of your physician for so doing; otherwise you may do yourself much harm. But whether you endeavor to increase it or not, you should certainly continue to afford your babe what you have, and resort to artificial feeding for the balance.

In my next I shall confine myself to remarks respecting the care the infant child demands at your hands.

CHAPTER IX.

WASHING AND BATHING INFANTS.

The treatment received by the infant during the first few weeks and months after its birth has a most important influence upon its future well-being.

Previous to this time, although possessed of an independent life of its own, it neither breathes, eats, nor drinks: its organs of sense exist, it is true, but they have never been exercised.

It has enjoyed a sort of tranquil state of vegetative existence, far removed from the multifarious influences of external causes, with but a narrow circle of organic functions to perform.

Its growth has been dependent upon the nutriment received into its system, not by the mouth and its own digestive organs, but through the umbilical cord, which through the placenta imbibed it from its mother's blood in a manner exceedingly analogous to that by which vegetables imbibe their nutriment from the earth.

Its life, like that of most vegetables, has hitherto been dependent upon its adhesion to, and deriving the materials of its growth from an object external to itself.

The placenta and the umbilical cord have acted the same part toward its development, and performed the same functions as the roots and the stem of the tree do toward the growth of its branches, leaves, flowers, and fruits.

How great the change that takes place at birth! In a moment the above-named characteristics of vegetable life are exchanged for those of animal life.

Organs which, up to this period, lay passive and dormant, are now suddenly called to the performance of their various functions and operations, and the whole machinery of its system starts forth in the performance of the harmonious series of vital actions.

The air for the first time comes in contact with its body; it rushes into the air-cells of the lungs, and respiration is established.

The blood is no longer purified in the placenta; but, rushing through the lungs of the child, is there purified.

The digestive organs, heretofore entirely inactive, must henceforth elaborate (from food received into them) the materials for the future growth and well-being of the whole system. Hence the stomach begins to exercise its instinctive calls for nourishment. The bowels begin to act and to eliminate their contents, and the various secretions subservient to digestion are established.

The senses are awakened. Light strikes upon the

eye—sound upon the ear—and the taste is delighted with the simple nourishment formed for it in the maternal bosom. The infant at this early stage is exceedingly sensitive to the variations of temperature and other atmospheric changes, and to all other deleterious impressions. It is gratified by soothing and agreeable influences.

When we contemplate these remarkable changes in this most helpless and feeble being, it would seem surprising that the new-born infant could prolong its existence, even for a few hours, did we not know that the benevolent Author of nature has endowed every being with powers adequate, under ordinary circumstances, to sustain the changes and modifications which it is destined to undergo in the progress of its development from the nascent point to the full state of adult life.

It is evident, however, that this power of accommodation can afford no protection against the numberless accidents and *unnatural* impressions to which the new-born infant is liable to be exposed.

On the contrary, there is no period of life in which there exists such an imperative necessity for protection from even the slightest influences of an injurious character, as during the early stages of infancy.

Apparently slight errors on the part of those having the care of children at this period often lay the foundation of permanent constitutional infirmity. Much suffering, or an early death, or both, are but too often the

consequences of improper management of the new-born infant in relation, particularly, to *diet*, *dress*, and *exposure* to atmospheric changes, and to improper temperatures.

Instead of abstracting heat from the system, we find it much more congenial to its wants to impart to it a moderate degree of warmth from without. It can not be doubted that the neglect of this rule, and their immediate exposure to cold *air* and *water*, is frequently productive of serious maladies.

Were an adult, even, confined for nine months to an invariable temperature of 98°, and then suddenly ushered into a medium of the temperature of 60°, is it not extremely probable that it would prove highly detrimental to his health?

The occurrence of disease from much less remarkable vicissitudes than this is a matter of almost daily experience. How, then, can it be reasonably contended that the delicate and feeble organization of the new-born babe (whose powers of generating heat within itself are so very feeble) should be capable of bearing such a transition without experiencing any injurious consequences.

You can not well be too careful in keeping your child from the depressing influences of cold for the first few hours and days of its life. After this, let it be inured to them gradually, as you find its vital powers are able, by a salutary reaction, to resist, and even

to be benefited and strengthened by them, which will be sooner or later, according as it is more or less robust.

I have already told you in a former chapter, that immediately after the birth, and separation of the child from its mother, it is to be wrapped closely in a soft flannel blanket, well warmed.

If it appears feeble, and its breathing is not well established and easy, it should be allowed to remain for some little time without being disturbed.

But if it is well and strong, it should be *washed as soon as convenient.*

The water used for this purpose should be *soft*, and *not hard; warm*, and *not cold, or even cool.* Its temperature should be as high as 90° at least. The justly celebrated Dr. Eberle thought it should be as high as 98° for the first ten or twelve days.

I well know that, under the impression that the use of cold water is calculated to invigorate the infant, and to inure it early to the vicissitudes of atmospheric temperature, and thus to obviate in some degree the liability to disease from this source, some few have insisted, and some do still strenuously insist upon the use of cold water for the first ablution. And there can be no doubt but that some very robust children may endure it without very material injury.

"Yet," in the language of a celebrated medical

writer, I would say, "general experience is decidedly in favor of the use of warm water for washing infants, and a correct view of the circumstances connected with this subject gives it also the decisive sanction of reason and common sense."

The infant having never been exposed to the influences of but one uniform temperature, and that one of 98°, during the whole period of its uterine existence, can not but receive a painful and often injurious shock when suddenly subjected to the application of cold water.

Indeed, the struggles, the pale, contracted skin, the purple color of the lips and face, the hands and feet, and perhaps the whole surface of the body, the shrieks and the trembling which are so constantly witnessed when the infant is plunged or washed in cold, or even cool water, or when warm water even is used, if the air of the room is not well warmed also, afford convincing evidence that painful, and we must believe injurious, impressions are made upon its system.

There is a white, caseous substance deposited upon the skin of the child, in many instances, which is insoluble in water or soap.

It adheres very closely, but is decomposed, and then very easily removed, by the application of the yolk of an egg, and then washing with simple soft water; or by the use of sweet-oil or lard, and then washing with soap and water.

The soap used for washing infants should be of the

finest quality, on account of the extreme sensibility and tenderness of the skin.

The infant having been washed and carefully dried, may be dressed immediately, unless it appears chilled or exhausted, in which case it should be again carefully wrapped in a warm flannel, and allowed to lie still till it gets warm and rested.

Throughout the whole period of infancy, the greatest attention should be paid to keeping the child in a *state of perfect cleanliness.* For this purpose, its whole body should be washed at least every morning, and perhaps, in part, every evening also.

It is also a matter seriously affecting its comfort and health that it be kept dry.

This is particularly important with those parts that are subject to friction from being in contact with each other, as the nates, the groins, the armpits, and the folds of the neck. Such parts should be carefully examined every morning when the child is washed, and if they appear irritated in the least, they must be washed again in the evening, or before, and then carefully dried, and, if need be, dusted over with hair-powder or pulverized starch; but if you are sufficiently careful in regard to washing and drying, you will probably have little use for the powder.

Besides being simply washed, it is desirable that children should be *bathed* as often as from one to seven times a week, particularly through the summer season.

CHAPTER X.

THE *proper* DRESSING *of children* requires some little practical experience.

Some think that the clothing should all be fitted with tapes, to be tied when the child is dressed; others prefer to have a needle and thread near by, and with these to fasten the clothing. Others, again, are found who are content with using pins for this purpose, and do so without injury.

Those who use tapes, or a needle and thread, do so lest pins should prick the infant. In respect to this matter, your own good sense and a little experience will direct you.

Some mothers can and do use pins with perfect safety, because they know how to put in the pins in such a way as to be secure against doing injury to the child, and are *careful* to do so.

Such mothers, I think, have the easiest way of fastening the clothing of their children; but those who find their children screaming from the pricks of pins every now and then, had better resort to the use of one of the other modes.

Both the washing and the dressing of children—of young infants particularly—should be done quickly and with the greatest care neither to hurt nor *fatigue* them by rough handling, or by the length of time occupied.

I can not refrain from quoting a passage here, which is no less philosophical than practically true:

"During this daily process of washing, which should not be done languidly, but briskly and expeditiously, the mind of the little infant should be amused and excited. In this manner, dressing, instead of being dreaded as a period of daily suffering—instead of being painful, and one continued fit of crying, will become a recreation and amusement.

"In this, treat your infant, even your little infant, as a sensitive and intelligent creature. Let every thing which *must* be done be made not a source of pain, but of pleasure, and it will then become a source of health, and that both of body and mind; a source of exercise to the one, and of early discipline to the other.

"Even at this tender age the little creature may be taught to be patient, and even gay, under suffering. Let it be remembered that every act of the nurse toward the little infant is productive of good or evil upon its character as well as health. Even the act of washing and clothing may be made to discipline and improve the temper, or to try and impair it, and may

therefore be very influential on its happiness in future life.

"For thus it may be taught to endure affliction with patience, and even cheerfulness, instead of fretfulness and repining; and every infliction upon the temper is also an infliction upon the body and health of the little child.

"The parent and the nurse should, therefore, endeavor to throw her own mind into her duties toward her offspring. And, in her intention of controlling her infant's temper, let her not forget that the first step is to control her own. How often have I observed an unhappy mother the parent of unhappy children!"*

In the *dressing of new-born infants*, the first thing to be attended to is the portion of the umbilical cord remaining attached to the navel.

This should be wrapped round with a piece of soft linen, so as to *entirely envelop the whole* of it in several thicknesses. It is then to be folded down upon the body *above* the navel, and over it should be placed a compress, made of several thicknesses of soft linen, about the size of a silver dollar, or a little larger. The whole is to be kept in place by a soft flannel† band,

* Letters to a Mother, on the Watchful Care of her Infant, p. 89.

† Besides the general reasons for the use of flannel in dressing

about four or six inches wide, passed around the child's body, and fastened just tight enough to keep its place and afford a slight support to the belly, particularly to that part which is covered by the compress. Care must be taken that it be not drawn so tight as to be uncomfortable.

The umbilical cord is to be folded down upon the body, *above* the navel, both because it is more convenient and because it is wanted there, together with the compress, which is to be placed with its centre directly over the navel, to prevent the occurrence of a hernia or rupture.

I well know that some persons at the present day discard this fixture as altogether unnecessary.

They do so because of their ignorance of the consequences of its neglect. The occurrence of these ruptures is not common in this country, simply on account of the care that is so uniformly taken.

But in Siam, where this band is never used, I found them *exceedingly numerous*; and, in conversation upon this topic, a gentleman, who spent some time on our Pacific coast, informed me that he observed them to be very common, indeed, among the natives of the Pacific islands, where it is never resorted to in the case of infants.

This band should be worn for four or five months;

infants, its *elasticity* renders it peculiarly well fitted for this purpose.

and when the parts about the navel seem weak, and ready to yield and protrude from the pressure of the abdominal viscera, it will be proper to continue its use a much longer period.

For the first few days the condition of the navel cord should be frequently and carefully examined, lest, from some cause, bleeding should take place from it, or the skin beneath it should become irritated and sore. But you must not try to remove it for several days; you will then find it to have entirely separated from the lining tissue, when it may be removed. The part is now to be washed carefully, and a new compress applied and kept in use several weeks longer.

CHAPTER XI.

CLOTHING OF INFANTS.

With regard to the clothing, I do not wish to dictate to your taste further than is necessary to secure to your child that which shall be *warm*, *light*, and *loose*.

Owing to the extreme sensibility of the skin to atmospheric changes, and for other reasons, *flannel* should always be worn next to it, in early infancy at least.

In the case of feeble children, this is particularly important. Their clothing should not only be warm, to protect them from the evil effects of sudden transitions of temperature, from the depressing influences of cold, but it should also be a bad conductor of electricity, to preserve to their bodies all of that fluid which belongs to them.

The flannel should, of course, be made of fine, soft wool, and be of a fine texture, to avoid any undue irritation. Such flannel very seldom, if ever, produces any eruption or rash; but, on the contrary, tends to keep the skin moist, healthy, and free from any eruptive disease, even when worn in the warmest weather.

When we consider that the infant, up to the period of birth, has been enveloped in a temperature of 98°, and most perfectly and entirely protected from the pos-

sibility of any and all changes of temperature, we can not fail to see the astonishing impropriety of at once substituting thin linen, or even cotton clothing, for the thick covering of the mother's body, as soon as it is born.

I hope you will never fail to avoid such errors. Let your babe be dressed with flannel next its skin, till after the period of teething at the very least; and when that has past, I would still recommend it, but should not consider it so essential, especially if the child has vigorous health. But if of a more feeble constitution, you will do him a very great benefit by continuing his flannels till he becomes more robust.

Cotton is a better conductor of heat and electricity than flannel, and therefore not so good, and, besides, it does not produce upon the skin that degree of healthy friction which the flannel does.

It will also require a greater weight of cotton than of flannel to afford the proper amount of clothing. On this account, not only should flannel be used for the garment next the skin, but for all the under clothing

If, however, upon a fair trial, flannel is found to irritate the skin so much as to be troublesome, or during the warmest part of the year to produce habitual sweating and prostration, cotton garments may be used.

If over the proper amount of flannel you please to put on a neat muslin frock during the heat of summer, it will certainly look very well. But do not, on any

account, forget the necessity there is that your babe should be quite as warmly clad as yourself.

For the reasons above named, it must at once be evident to you that *short sleeves and low-necked dresses* are never to be named as suitable for children.

I know it is said by some mothers, who love to see their pretty little arms and necks exposed to their own and others' admiring view, that, as children are so constantly kept in warm rooms, and not exposed to the cold air, they do not suffer from this deficiency of dress; but I can not agree with them.

If they are kept within doors, the doors are frequently opened, and the exposure they then receive is as great, in proportion to their power of generating heat within their own systems, as are the exposures of their mothers in comparison with their power to resist the cold.

And, besides, the rooms in which children are kept should always be well ventilated, and good cool, fresh, and pure air frequently, if not constantly, admitted for the purposes of respiration. For this purpose, it should be cooler than would be proper for applying directly to the surface of the unprotected skin.

I am aware that you may meet with those who will tell you that by these early exposures the child is inured to the vicissitudes of temperature, and rendered robust.

But you can never "harden" the tender plant by exposing it to the cold frosts of the night. You can never

cause corn to grow without the genial warmth of the midsummer's sun; and you can never "harden" your child, and make him robust and healthy, by allowing his little hands, arms, shoulders, and feet to be cold, or withholding from him a sufficiency of clothing to protect him quite as effectually from the changes of temperature to which he is exposed as you yourself are.

He may not complain in infancy, or in childhood even, of such deleterious exposures; but, depend upon t, his health will not be as good as it might otherwise oe. He will be far more liable to colds and lung fevers in the winter, and to bowel complaints in the summer, if thus exposed.

That you may be fully assured that in the views above expressed I am abundantly sustained by the best medical authorities, I present you here extracts from the writings of two celebrated physicians, one of the past, and the other of the present generation.

"It is certainly a most inconsistent practice to expose the breasts and arms during the weak and tender age of infancy and childhood, and yet to deem it necessary to keep these parts carefully covered after the system has acquired firmness, and its full power of vital resistance, by a more mature age.

"Croup, inflammation of the lungs, catarrh, and general fevers in cold seasons of the year, and bowel complaints in the summer, are often the consequence of this irrational custom; and the foundation of pulmonary

consumption is often thus laid during the first years of life. It ought, therefore, to be immediately abandoned, as one of decidedly injurious tendency."—*Eberle.*

"The fashion of exposing the arms and shoulders, and other parts of the busts of females, when in ball-dresses, and of children of both sexes, is, in our climate, productive of the most disastrous consequences, not only in the acute, and often fatal diseases, but also in those of a chronic nature, to which it gives rise.

"The young of our species, like those of all animals, require the aid of external warmth to keep up the requisite amount of animal heat.

"This important principle in physiology, and its hygienic deductions, are not appreciated, certainly not enforced, by physicians as they ought to be."—*Bell.*

These remarks in regard to dress are particularly applicable to the first stages of infancy, but apply with gradually decreasing force with the increased age of the child up to nearly adult age, *because that the power of generating animal heat is lowest at the time of birth, and gradually increases with the advancing age of the individual till past the period of childhood.*

Many children suffer severely, and even fatally, for want of proper clothing, whose parents, blinded by fashion, are not at all aware of it. This is often owing to the insidious manner in which cold operates upon the system, the injurious effects not being always manifest during or immediately after its application.

The question is often asked, Why should the neck, shoulders, and arms be covered with clothing any more than the hands and face? I answer, because they are much less abundantly supplied with nerves and blood-vessels.

When you find that a simple emotion of the mind, which spreads the crimson blush over the countenance at the same time, produces the same effect upon the arms and shoulders, then, and not till then, will it be proper to conclude that the one needs no more clothing than the other.

Let, then, your infants be warmly clothed. Let the clothing be principally of flannel, not only for the sake of its warmth, but also that it may be as light, if possible, in proportion to their strength, as your own. Let it be put on so loosely as not to compress their lungs, or restrain the motions of their bodies or limbs, and then let them be rendered hardy and robust by good nourishing food, and plenty of exercise in the open air.

Mothers are too apt to forget that their *children need exercise;* that, even in the earliest days of infancy, they wish to kick with their feet, and perform a thousand other muscular movements, which they will not be able to do with the freedom desirable if their clothing is either too heavy or put on improperly.

They are too frequently kept closely wrapped in blankets, and held too snugly in the arms of a nurse. They sometimes become very fretful from this cause;

they want the privilege of moving their limbs and bodies about, agreeably to the impulses of their own natures, but of these matters I shall speak hereafter.

Until children begin to creep and show some disposition to stand upon their feet, the dresses should be so long as to protect their feet from the cold.

After this time, they should be short enough not to interfere with their efforts to walk. The feet will then require additional clothing.

The pattern of the clothing will change constantly, and any fashion may be followed so long as it is not inconsistent with the principles above named.

As the practice of putting caps upon the heads of infants has so far gone out of date, it seems almost superfluous for me to name it, and yet you may be asked by some good grandmother, why, when you are so careful to clothe the arms and shoulders, you do not clothe the head also.

To this question your proper and true answer will be, that there is naturally a strong tendency to a determination of blood to the head during infancy. The tendency to inflammatory diseases of the head is confessedly much greater during this early age than at any other period of life. If the rule to keep the head cool is ever applicable, it is particularly so during infancy.

Of course, if the child is at all exposed out of doors,

it may be well to have its head slightly protected by a thin cap or hat, but while within doors no such covering can be beneficial.

THE NURSERY-ROOM.

Some think that infants ought to be carried out of the nursery-room within a week after birth, for the sake of giving them fresh air; but I would have your room so well ventilated and lighted that there should be no special need of this.

The *apartments of children* should not be kept too warm. Nothing tends more directly to enfeeble and relax the human system, and to predispose it to the injurious influences of cold and atmospheric vicissitudes, than habitual confinement to heated rooms.

The skin, and the mucous membrane of the lungs, being kept almost constantly in a state of inordinate excitement by the stimulus of heat, acquire so great a degree of susceptibility to the depressing influences of low temperature, that the slightest exposure to the open air is apt to give rise to the various distressing and dangerous consequences of a suddenly-checked perspiration.

"Warm rooms," says Sturve, "in my opinion principally contribute to the extraordinary mortality of children, who are carried off by convulsions during the first months of their lives."

The continued influence of atmospheric heat has a

very decided tendency to increase the irritability of the system, rendering it morbidly susceptible of the injurious impressions of irritating causes.

The *practice of keeping nurseries very warm is particularly detrimental to children during the* PERIOD *of* TEETHING.

Under the most judicious regulations their systems are apt to acquire a morbidly irritable condition during this process. It is manifest, therefore, that when this natural tendency to an irritable habit is promoted by this or any other cause, the liability to disease must be peculiarly great.

And further, when we take into consideration the tendency which exists during teething to an increased flow of blood to the head, it is obvious that those who spend the greater part of their time in heated rooms, and sleep in apartments poorly ventilated and too warm, can not fail to be especially liable to convulsions and inflammatory affections of the brain from the occasional impressions of cold to which they are necessarily exposed.

The temperature of nurseries should rarely, if ever, after the first few days, and while children are well, be suffered to exceed 73°; and most usually a temperature of 67° to 72° is sufficiently high to be comfortable; and experience has shown that this temperature is best adapted to secure the health and vigor of the system.

CHAPTER XII.

NOURISHMENT OF INFANTS.

I SHALL *now speak of the* NOURISHMENT *best suited to the early periods of life.*

Before doing that, however, you must indulge me in some remarks respecting the *importance* of this subject, and the evils that the physician who has an investigating mind and studies his profession with care easily traces to errors in regard to the articles introduced into the tender stomachs of new-born babes.

There is probably no source of disease, during the first few years of life, whose influence is more extensive and destructive than improper management in this respect.

The foundation of incurable chronic disease, and of constitutional infirmity throughout the subsequent period of life, is often thus laid within the first month, or even the first few days, and perhaps I might say hours after birth.

The custom of feeding children with inappropriate articles almost as soon as they are born is extremely reprehensible. No sooner is the infant washed and dressed, than, in quite too many instances, the nurse

is ready with her spoon in hand, and with her cup of gruel, pulverized cracker, or some other equally injurious preparation, to fill its stomach to the utmost of its capacity. This process of stuffing is often continued with a ruinous degree of diligence and perseverance. Conceiving that, as the child has been fasting during the long period of nine months, it must, of necessity, have an excellent appetite, and an immediate demand for nourishment, nurses are prone to deem it their duty to be most vigilant and industrious in charging its stomach with some alimentary substance.

The new-comer is now placed in a most pitiable condition. Being incapable of making known its wants by words, its screams of distress, occasioned by the colic and griping thus induced, are taken either as manifestations of hunger—and, to appease this, the stomach is constantly kept in a state of distention by food—or of griping, to relieve which, and "to enable the little fellow to throw the 'wind' off from his stomach," recourse is had to catmint tea, anise seed tea, Godfrey's cordial, paregoric, or some other palliative or nostrum, by which another source of gastric derangement and indigestion is brought into operation.

Thus, between the two, the helpless babe has no chance of escaping from the torments and ruinous consequences of its unfortunate condition.

At every period of life, over-distention of the stomach by food or drink is one of the most certain and pow-

erful causes of indigestion, and we can scarcely conceive it possible that the tender stomach of the infant of a few hours can escape serious irritation and debility when over-charged with food even of the mildest kind.

The digestive powers being thus prostrated and enfeebled, all the harassing and painful consequences of indigestion necessarily ensue. Acidity, flatulency, colic, vomiting, diarrhea, green and griping stools, emaciation, not to mention other distressing and dangerous symptoms, inevitably supervene.

In nine cases out of ten, perhaps, these distressing ailments, which so frequently harass infants during the first half year after birth, are the results of indigestion, brought on by errors in diet; and not unfrequently are the digestive powers effectually prostrated by the very first feeding.

Some healthy, vigorous, and robust children are able to resist these injurious influences to such a degree that, after four or five months of flatulency, griping, &c., a considerable degree of health is obtained. The number of instances of this kind is so great that it has attracted the particular notice of mothers and nurses, and they comfort the young mother who has a child thus suffering with the assurance that it will recover from all these troubles by the time it is six months old.

In many cases, however, the irritation which is thus kept up in the stomach and bowels does not pass off in so favorable a manner; jaundice, chronic and unman-

ageable diarrhea, emaciation, slow fever, enlarged mesentric glands, dropsy of the brain, scrofula, chronic affections of the liver, epilepsy, convulsions, and other dangerous maladies, may, and not unfrequently do, result from this state of the alimentary canal during infancy.

Let the child's stomach be once or twice filled during the first twenty-four hours with gruel or any of the ordinary preparations employed by nurses for this purpose, and the chances will probably be as ten to one that acidity, vomiting, colic, griping, and jaundice will supervene.

It not unfrequently happens that the digestive functions are, in the brief period that intervenes between the birth of the infant and the secretion of the mother's milk, so deranged and impaired that even the wholesome and congenial fluid furnished by the maternal breasts will not be easily digested.

In such cases, the acidity, flatulency, &c., will continue to harass the child until the digestive organs, by being protected from the injurious influences of other articles, gradually acquire a greater degree of vigor. What sometimes adds to the evil is, that the mother's milk is blamed for all the ills thus induced.

Nature herself seems to point out the impropriety of this practice of feeding new-born infants by withholding the nourishment which she provides until many hours after birth.

It seems highly improbable, if not impossible, that this should be the case, if it were necessary that the infant should receive *nourishment immediately.*

It is true that there are exceptions, but, as a general thing, the milk is not secreted in any considerable quantity until some hours after birth, and what little is secreted is of a very different character from that which is secreted afterward.

Perhaps I shall not find a more appropriate place than this to speak of the pernicious practice of feeding children when just born with certain articles (some of which are too disgusting to be even named), with the view of purging off the contents of the bowels, which is called *meconium,* and certain other articles to prevent the red gum or the jaundice, just as though nature did not provide for the proper care of the young.

The adult who takes medicines to prevent sickness is almost certain to be sick. And the infant, not sick, who is dosed with chamber-lie and molasses, saffron tea, egg or milk punch, or any thing else of the kind, can receive no benefit. I pray you, suffer nothing of the kind to go into the mouth of your infant child: if it is sick, there are other and better remedies, of which I will tell you hereafter.

I have made the above remarks, that I might impress upon your mind some idea of the importance the subject assumes in my own mind, and, so far as I have

been able to learn, also in the minds of the best physicians who have written upon it.

In this I hope I have not altogether failed. I hope that you will be able to see the reasons and facts, which have operated so impressively upon our minds, with so much distinctness as to satisfy you of the correctness of our views, and to justify us, in your estimation, in feeling and speaking thus strongly respecting a custom so excessively injurious to the little innocents who are made to feel so very severely the evils caused by the ignorance and the errors of their superiors.

If I have succeeded in this; if I have so impressed your mind with the importance of this subject as to protect even one helpless babe from those evils which I have so faintly depicted, I shall feel that I have not labored in vain; more, I shall feel that I am most abundantly repaid.

I will now give you such directions as I may be able in regard to what *should* be done—what should be introduced into the child's stomach.

But you must not expect me to prescribe for each of the ever-varying circumstances in which infants may be placed. All I can hope to do is to give you such directions as will enable you, under ordinary circumstances, to proceed in the care of your children with confidence and firmness; and such as will guide you, with a little thought, observation, and study on your

part, in the right direction under such *extra*-ordinary circumstances as may be most likely to occur.

This must be done by laying down in some intelligible form the fundamental principles which are to be your guides. I prefer to do this by placing them in the concrete, which is usually more acceptable to the ladies (and to the gentlemen, too), than to give them in the abstract, and, withal, they are more likely to be remembered and rendered available.

It is very well, immediately after the child has been washed and dressed, to feed it with TWO OR THREE TEA-SPOONFULS OF COOL WATER. This operates to cleanse the mouth and prevent it from becoming sore, as babes' mouths are somewhat apt to do if this is neglected; and on this account, it should be repeated every morning. In case the child seems hungry, it appears to satisfy it as well as any thing that can be given.

If this is done, children will most commonly lie quietly for an hour or two, or at least till the mother has become so far rested as to be able to have her babe applied to the breast. This may be done, if it is wakeful and disposed to nurse, as soon as she feels able; but if the child is disposed to lie quietly, either sleeping or waking, it may be well to let it lie in some

warm place, as in the nurse's lap, or, better still, close by its mother's side.

In the course of a few hours, probably, the child will manifest some disposition to *nurse*, and in that case it should be put to the breast and allowed to draw as much as it pleases; but in case it lies quietly, and shows no such disposition, you should, by all means, let it lie, and not disturb it, or be in the least alarmed on this account. I have known lambs to run about and be quite active for two, three, or four of the first days of their lives, without receiving any thing into their stomachs; and you may rest assured that, if your child lies quietly by your side, breathing easily, and sleeping or not sleeping, it is doing well, and should not be disturbed till it manifests some uneasiness, or a disposition to nurse. If well, it will certainly do so in the course of twenty-four hours.

It will most surely cause you trouble enough after a time, and why should you disturb his happy rest on his first entrance into this troublesome world? No, no, you should never be guilty of such want of due consideration for the comfort of your offspring, but let it rest as long as it will. I never knew a child to suffer from *such* neglect, whereas I am certain that thousands upon thousands have suffered from the want of it.

Do not let your desire to see his bright eyes lead you to disturb his quiet slumbers, nor your desire to see him manifest his uncommon brightness get the better

of your sober judgment. Let him rest. When he wakes, nurse him, change any of his clothing that may require it, and let him sleep again.

Babes treated in this way will, I think I may say, *most usually* sleep a great part of the time for several of the first weeks of their lives—and why should they not?

No fears should be entertained in regard to the health of a new-born babe so long as it rests quietly; and it should not be disturbed, as is too often done through mistaken kindness, or to gratify the curiosity or any other feelings of the mother or others.

I know you may be told that the child must take something to *purge off the contents of the bowels* called meconium.

This is a tenacious, semifluid substance, of a dark color, and, if not carried off within a few days after birth, may become a source of irritation; but you should never forget that Nature has provided for this want.

The fluid secreted in the mother's breasts before the birth of the child is as different from the milk that is furnished by them afterward as the contents of the child's bowels are from that found in them after it has begun to nurse, and is exactly fitted for the purpose of purging it off.

If the child is put to the breast as soon as he seems disposed to nurse, he will obtain enough of this fluid, which is technically called *colostrum*, even when the mother supposes there is nothing there. I repeat, even in this case, he will, in nine cases out of ten, at least, get enough to meet the necessities of the case, and the meconium will be purged off by the colostrum without occasioning any colic, griping, or other unpleasant symptoms. It will not act like physic, producing a rapid succession of stools; but more slowly, and in the course of two or three days the work will be done, and done as it should be.

If the mother is able to nurse her child, nothing should be allowed to enter its mouth, for the first few days at least, except the cool water that I have already spoken of, and what it gets from her, and perhaps a little water and molasses.

If, however, there are insuperable obstacles in the way of following out this plan; if the child is too feeble to draw sufficiently hard to extract the fluid from the breast, or if the mother's nipple is so small or sunk into the breast that the child can not get hold of it, or if, from any other defect or cause in either mother or child, the above course can not be pursued, resort must be had to the next best course. What that course will be will depend very much upon circumstances.

If there be another woman very recently confined,

who is able to nurse your babe, let her do so; but if her babe is several months old, it *may* not be the best course.

I should prefer taking the top of some rich milk of a cow that has a young calf, and the younger the better. Of this milk, that has stood for two or three hours, take one table-spoonful, two table-spoonfuls of soft warm water, and one table-spoonful of treacle or common molasses—not sirup—but the common molasses of medium quality;* mix these all together, and of this mixture feed the child from three to six tea-spoonfuls once in from one to four hours, as he demands by his uneasiness, and manifesting a disposition to nurse so strongly that *he will* NOT *keep quiet without receiving it.* This will, in most cases, make an excellent substitute for the colostrum.

If milk of something near the quality I have named can not be had, the cream of other rich milk of the cow may be taken in half the quantity, and mixed with the warm water and molasses; and if such can not be had, simple soft warm water and molasses may be used without the milk, always bearing in mind not to feed the child *more than barely enough to quiet its crying for the breast.* More than this quantity, during the first few days, is always extremely prejudicial to its best interest.

* This should be used instead of sugar, on account of its aperient property. The object is to form a substitute for the colostrum.

If, however, notwithstanding this course has been carefully and faithfully pursued for two, three, or four days, the color of its diapers still remains unchanged from the dark greenish color of the meconium to the light yellow of the healthy fæces, and especially if the child begins to manifest some uneasiness, as if troubled with colic or griping in its bowels, you must then resort to other and more active measures.

The child is now sick, and needs medicine. For such cases I like good sweet *olive-oil* very well, given in tea-spoonful doses once in from two to four hours, or good, sweet, *cold pressed castor-oil* may be given in the same quantity, but that which has become rancid and nauseous should not be used. A little of the best flake manna, dissolved in water, so as to be about as thick as common molasses, and given in tea-spoonful doses, as directed for the olive-oil above, is a very good remedy. Some make use of a quarter or a third of a tea-spoonful of calcined magnesia, suspended in water for this purpose, but I would not recommend its use.

I might have added, however, that a larger amount of molasses might be used to advantage before using the other articles. Most usually, the above means will be found sufficient for all purposes.

If they do not, an enema of molasses and water, a table-spoonful of each, may be carefully given with a small syringe.

If the child's head is hot, or if he appears stupid, or

both at this time, the presumption will be that there is some oppression on the brain which prevents the action of the bowels, and he should be seated in a *warm* bath, the water coming up as high as the navel, and, at the same time, a cloth wet in cool or cold water should be spread over his head. The water should be at a temperature of about 88° or 90°. This will be pretty likely to remove the oppression of the brain, and the bowels will act freely.

From what I have already said, you will perceive the importance of great caution against irritating the stomach and bowels, and will call in the aid of your physician without much delay if the measures above named do not remove all unpleasant symptoms and appearances.

The meconium having all been purged off, and the stools become yellow, and your milk fever past, we will hope that you will have in your own breast sufficient milk, and be able to furnish your babe with all the food it requires. If so, no other nourishment whatever should be allowed; but if, from deficiency of milk, its bad quality, the debility of the mother, or any other cause, it becomes absolutely necessary, resort must be had to other aliment.

The *food which I should recommend* for this purpose,

in most cases where it can be had, may be prepared by taking newly-raised cream from the milk of a cow that has a young calf, together with a little of the top of the milk.

(A young, healthy cow should be selected, that gives *rich* milk—*milk that will not look bluish after skimming it*—and *her* milk alone should be used. There is a great difference in the quality of the milk furnished by different cows, and the exchanging that of one cow for that of another in the feeding of young infants not unfrequently produces vomiting and an irritation of the bowels, with colic, griping, and greenish stools, containing more or less white, undigested curd, with other manifestations of dyspeptic trouble.)

At first, after the meconium has ceased to appear in the stools, you may take one table-spoonful of this cream, and add to it twice that quantity of soft, warm water, and sweeten it with *loaf-sugar*. Of this enough should be used to make it about as sweet as breast-milk.

This preparation will do very well, and may be fed to your babe in such quantities as is necessary to satisfy his natural desire for food. As the age of the child advances, you may use a larger proportion of the cream, and may also take more of the top of the milk with the cream. This is an excellent food for babes, and many will thrive nicely upon it without any breast-milk at all.

The following preparation is most admirably adapted to the necessities of those residing in large cities, especially for children of weak and irritable digestive organs. "It is made by dissolving a small quantity of prepared gelatin, or Russian isinglass, in water, to which is added milk, cream, and a little arrow-root, or any other farinaceous substance that may be preferred.

"The mode of preparation and the proportions are as follows: a scruple of gelatin (or a piece two inches square of the flat cake in which it is sold) is soaked for a short time in cold water, and then boiled in half a pint of water, until it dissolves, about ten or fifteen minutes. To this is added, with constant stirring, and just at the termination of the boiling, the milk and arrow-root, the latter being previously mixed into a paste with a little cold water. After the addition of the milk and arrow-root, and just before the removal from the fire, the cream is poured in, and a moderate quantity of loaf-sugar added.

"The proportions of milk, cream, and arrow-root must depend upon the age and digestive powers of the child. For a healthy infant, within the month, from three to four ounces of milk, half an ounce to an ounce of cream, and a tea-spoonful of arrow-root to a pint of water, is usually directed.

"For older children, the quantity of milk and cream should be gradually increased to a half or two thirds

milk, and from one to two ounces of cream. I seldom increase the quantity of gelatin.

"In cases of sick children, it ought sometimes to be made even weaker for a while than in the first proportion mentioned above."

Hecker's prepared Farina is also an excellent article for babes, and so is arrow-root when of the *best quality;* but this is rather prone to constipate the bowels.

Whenever these articles are used, and the bowels become *costive*, you will most usually be able to regulate them by using a little brown sugar, more or less, as the case may be, with the refined loaf-sugar for sweetening. And if, on the other hand, they become too much *relaxed*, a larger proportion of arrow-root, cooked in the milk, will very frequently be all that is required to correct that difficulty.

This artificial food, made as warm as breast-milk, may be fed to the child by means of a spoon; and if it obtains a considerable proportion of its food from the breast, so as to sufficiently excite the salivary glands by sucking, this will probably be quite as well for the child, and easier for you, than to make use of the bottle.

But if you only have a small amount of milk, and are obliged to depend mainly upon artificial food, it will be better for the child, and probably easier for you, to make use of a nursing-bottle.

Whenever a bottle is used, particular care should be

taken to keep it perfectly clean and sweet. It should be well washed, both inside and out, with hot water every morning and evening.

After the child has satisfied his appetite, no new supply of nourishment should be added to what may have been left. Any that remains should be emptied out, and the bottle well rinsed before more is put into it.

The same food should not be allowed to remain in it more than three or four hours. When kept too long, even if not perceptibly changed in taste, it becomes injurious to the child's stomach and bowels.

By these means the food will always be sweet, and free from offensive and irritating qualities. You will probably be able to obtain a bottle made for this express purpose, and kept in shops, under the name of nursing-bottles.

If you find one of these, it will be more convenient than any thing else ; but if not, a common eight-ounce vial, or a half-pint decanter furnished with a silver tube, having a flattened and oblong mouth-piece passing through the centre of the cork, will, in general, answer the purpose very well. These can be obtained of any apothecary.

The mouth-piece may be covered with an elastic artificial nipple, also to be had at apothecaries, or with two or three folds of soft old linen, which is not of so close a texture as to prevent the fluid from passing freely through it. This must be taken off and washed, or

exchanged for another, as often as is necessary to keep it sweet.

The use of this simple diet should be continued, with as few variations as possible, except such as have been already named, until after the first teeth have made their appearance.

The food may then be a little more varied and substantial; but any change should be made very gradually, and with much care. Grated cracker, dissolved in water and milk; milk, thickened with rice flour, or fine wheat flour, stale wheat bread toasted, and softened by pouring upon it warm milk, and similar articles, should be added, in small quantities at first, to the food it has formerly eaten.

Sometimes, when there is a tendency to acidity in the stomach after taking these, a little chicken, mutton, or beef broth, made free from fat, may be beneficial; yet great care should be exercised against deranging the stomach with too much of such things, or with too great variety.

When the child is taking its food, whether from the breast, the bottle, or the spoon, it should be supported in an easy, *semi-recumbent* position, upon the arm or lap of the person feeding it, and should be kept quiet for at least thirty or forty minutes after having received its nourishment.

Rest is particularly favorable to digestion, especially during its first stages, because the digestive organs re-

quire a concentration of the vital energies upon themselves to enable them to perform this important function with due rapidity and ease.

Both experience and experiments upon the lower animals have shown that the process of digestion is particularly liable to be impeded by strong mental or corporeal exercise, or agitation immediately after a full meal.

The practice, therefore, of dandling or jolting infants soon after they have taken nourishment is decidedly improper.

You will notice that all animals, as well as your babe, manifest a disposition to this quietness and repose after eating.

I have not yet spoken of the period of time that should be allowed to elapse *between the times of nursing or feeding* young children.

Some persons, of late years, have been very strenuous for a specific time of four hours. If you can so manage that your babe will be satisfied with this, I certainly know of no objection to it; but, on the contrary, it will be a very great convenience to yourself, and beneficial to him. In some instances, I have no doubt that, under judicious management, this can be done.

But I can not think it wise to allow infants to worry and cry from hunger, for an hour or more, simply because that, for some reason at the time for their previous meal, they failed to eat enough to satisfy their cravings till the next four hours have elapsed. It will be much better to feed them, *if hungry*, and let them go to sleep.

But if their crying arises from some other cause, the introduction of more food into their stomachs, before the former meal is wholly digested, can not fail to be injurious to the integrity and healthy action of their digestive organs, and must prove a painful source of the thousand evils which attend upon indigestion.

As a general thing, there can be little doubt but that, if the mother is free from other cares, so that she can attend to the nursing or feeding deliberately, and without haste, her babe will eat enough to satisfy it for at least two or three hours, and perhaps four, or a longer time.

It is certainly very important the meals should be taken at regular intervals. Yet the cases are not uncommon where the mother has not a sufficiency of milk to satisfy the wants of her child for the accustomed length of time, and yet the child will be so nearly satisfied as to decline taking any thing from the bottle or the spoon, and will begin to tease for the breast again in the course of an hour or two.

These cases are particularly perplexing, and it is not strange that mothers sometimes entirely disregard the

three or four hour rule, and nurse their children when ever they demand it.

When there is this deficiency of food secreted in the mother's breast, the evil can, in most cases, be the easiest got along with by accustoming the child to take one, two, or three meals a day, at regular, fixed hours, from the bottle or spoon. Yet every mother must be her own judge in such matters.

This apparently trifling deficiency of milk often does not attract the mother's attention; she thinks she has enough, and ascribes the worrying of her child to sickness of some sort. I have, in many instances, had children thus situated brought to me for medical treatment. It is unnecessary to say that an increase of wholesome food removes all *such diseases*.

I deem these remarks not out of place here, as they may be of great service in directing your attention to this subject, and may save you the mortification which young mothers sometimes feel whenever any such oversight or misapprehension of theirs is pointed out to them by others, especially by a physician. There is not the least occasion, however, for them to feel thus. It is not to be expected that mothers should know instinctively, even upon these subjects, all that reading, experience, and observation have taught the physician.

As age advances, the intervals between the meals can be gradually, and, as it were, imperceptibly lengthened, so that by the time weaning is fully accomplished

five or six meals during the twenty-four hours may suffice.

Some infants can be habituated to sleeping for six or eight hours in the night without waking to nurse during the whole time. This should be done, whenever it is possible; and whenever it can not be, all due effort should be made to protract the regular periods of nursing to as near that time as may be.

If judiciously managed, they will seldom wish for milk in the night after weaning. If, however, they have been indulged with the breast, it may be somewhat difficult to avoid giving them a little. But whenever this is done, it should be more and more diluted with water, and the quantity gradually diminished, until none is demanded.

By endeavoring, as soon as the first period of infancy is passed, to accustom the infant, as far as possible, to *regular periods for eating, and all other* NATURAL OPERATIONS, much of the trouble otherwise attendant upon the nursery may be avoided, and its quiet much less frequently disturbed.

The happy and beneficial influences of such a meas-

ure is often so great, that a celebrated writer has said that a prudent mother, whose infant is in good health, and who is herself of a cheerful and amiable disposition, must perform but illy her duties as a nurse, or she would seldom have cause to complain that her time is wholly occupied during the day, and her rest disturbed at night, by the cries of a fretful infant.

If the infant is encouraged to start up at any time of the day or night and demand the breast, or if the latter is constantly offered to it as a means of soothing its cries, whether it be hungry or not, perpetual restlessness and discontent must be the result; and these once established as a habit, the mother's peace and enjoyment, and the child's health and welfare, are sure to be sacrificed.

The infant may be quieted for the moment in this way, but it will be at the expense of ten-fold trouble and disappointment at a future time.

By suitable care, almost any child may be taught to require food only at something like stated intervals, and the danger of over-distention of the stomach may thus, in a great measure, be avoided.

Care should be taken to avoid provoking the infant to take the breast, in order to *appease restlessness* that may arise from any cause except hunger.

It is surprising how soon, by a neglect of this rule, a morbid appetite is created.

It is too often the custom of mothers and nurses to

take it for granted that because the child cries, that it is hungry, and then to force it to take the breast; or, when fretful from any cause, to appease it by the same means.

In this way a quiet is often produced, through the apoplectic state of the stomach, induced by this overfeeding; but, as I have already intimated, it is at the expense of the healthy tone of the stomach, and, when often repeated, can not fail to produce a disordered action of the digestive organs, and thus do permanent harm.

Infants often experience, even at a very early age, a sensation of thirst, which can be relieved only by the drinking of a little cool water. This should be borne in mind by every mother, and water frequently offered; it will often quiet the fretfulness of the child far better than any other means whatever, particularly if there is any unusual heat of the hands or other indications of fever.

As it is by CRYING that the infant, for the most part, endeavors to make known its sensations and its wants, the parent should, by early and careful observation, learn to distinguish with accuracy *that* cry which denotes hunger, and *that* which proceeds from pain and

other causes. It is important a young mother's attention should be directed to this subject, as it will serve to guard her from falling into the common and most injurious error of looking upon every cry of her offspring as an indication of hunger—a mistake often fraught with fatal results.

The cry of hunger may be easily recognized by a little observation. An infant awakening and needing the breast will generally show certain signs of hunger before it cries for food. It will put out its tongue, move its head about as if in search of the breast, and if at this moment the mother comes in sight, thoroughly arousing himself, he will manifest his joy at seeing her, and eagerly take his meal; but if, on the other hand, she is not present, and these signs are not heeded, the cry will begin, and continue much in the same tone, until the supply is obtained. Now these signs are not present when the cry is occasioned by some other cause. The child, it is true, will take the breast when offered, *but it does not ask for it;* and it will become quiet as soon as put there; but this composure will be of short duration, for as soon as it is taken from it its lamentations will be resumed with redoubled violence.

The cry of discomfort will, with some children, be very frequent, being produced by the most trifling causes. Thus some temporary inconvenience from posture: the child, for instance, has been lying long in one position, and has grown tired of it; some slight pain or

uneasiness, caused by a rucking or pressure in some portion of its dress; or, perhaps, positive pain, though slight, from the pricking of a pin. These, and many other causes of a slight and passing kind, will be continually occurring, which the mother should learn to detect and at once remove.

The cry of pain and suffering is variously expressed. If a child, usually placid and cheerful, gets fretful, fractious, and crying, with its fingers continually going to its mouth, this denotes pain caused by a coming tooth pressing against a tender and inflamed gum. If a child, not accustomed to cry much, on some occasion is perpetually crying, this denotes some continued, recurring painful sensation somewhere, and may demand medical attention even for its detection and removal.

The flow of tears never occurs in very early infancy It never attends the cry of temper and self-will. If, therefore, it is observed, it may be taken as a sure sign of either severe bodily pain, or of *grief*, or some other unhappy emotion of the mind.

The *moaning* or plaintive cry which characterizes some diseases needs no description. It will not escape the observation of the kind mother.

The frequent use of laudanum, *paregoric*, or ANY OF THE CORDIALS recommended for children (for they al

contain opium in some form or quantity), never fails to produce a very injurious impression upon both the nervous system and the digestive organs of the child, to retard the growth of the body, and to induce a general condition of the system altogether adverse to the healthful discharge of its various functions—a state that can not fail to operate unfavorably upon the child in respect to its well-being, happiness, and usefulness through life.

In the above remarks I refer to the use of those articles for quieting children when in *health*. There are states of ill health, arising from various causes, in which the use of some anodyne medicine is the least of two evils. In such cases it is always best to make use of them; but it should not be done without the advice of your physician, given after he has been made fully acquainted with all the facts known to you in the case.

You may be obliged to depend entirely upon ARTIFICIAL NOURISHMENT. Happily, under judicious management, and in the open country, infants will in general experience no particular inconvenience from such a course. In case you are obliged to resort to it, I refer you to the remarks I have made in regard to the feeding of infants whose mothers have sufficient milk to give them only a partial support. If you have to bring yours up entirely by the bottle, you are to pursue the

plan there laid down, except to increase the quantity of the nourishment thus given; but no changes should be made in the quality, or in any other respect.

As a general rule, a healthy child from one to three weeks old requires about a PINT OF BREAST-MILK, or other food equally nutritious, during the twenty-four hours. At the end of the first *month*, and in the course of the second, the quantity usually taken by the child increases gradually to about a pint and a half or a quart.

CHAPTER XIII.

WET-NURSES

If you have no milk of good quality, however, and find it convenient to intrust your babe to a *good* WET-NURSE, that will undoubtedly be the best thing you can do. I say a *good* nurse, because such are so difficult to be obtained.

"The best nurses," says Stewart, "are those who possess all the evidences of good health. The tongue clean, teeth and gums sound, indicating healthy digestion; the breath free from unpleasant odor; the surface of the body free from eruptions, and the insensible perspiration inoffensive; the breasts smooth, firm, and prominent; the nipples well developed, rosy-colored, and easily swelling when excited. The milk should flow easily, be thin, bland, of a bluish tint, and of a sweet taste, and, when allowed to remain undisturbed in a cup or other vessel, be covered with considerable cream.

"It is said that women of a brownish complexion generally have an abundance of milk, and of an unusually rich quality; and that those of a fair complexion have less substantial nourishment, which tends oftentimes to keep the bowels relaxed."

It is desirable that her age should be not very far from your own, and that her last confinement occurred at about the same time that your babe was born. This, however, is not always essential; in some instances the milk remains perfectly good for a long time. One instance has come to my knowledge where a lady employed the same nurse for three of her children in succession, the nurse's milk having remained abundant, and of good quality, all the time, so that she continued to nurse one child till the birth of the succeeding one. But instances of this kind are exceedingly rare.

It is seldom, however, that one can be obtained who is possessed of all the desirable qualifications, but it may justly be considered as of the utmost consequence that she should be in good health, and have a full supply of good milk—milk that is found, upon trial, to be free from any thing that produces griping, colic, or any other unpleasant symptoms, and to be rich enough to nourish the child.

She should also be disposed to devote her whole time to your service, or, rather, I would say, she should be one who loves infants so well that she will on no account allow yours to suffer, through want of attention, either day or night, and will cheerfully deny herself the pleasure of eating or drinking any articles whatever which injuriously effect her milk. Regard should be had to her former as well as her present habits of diet and regimen.

And, finally, particular regard should be had to her TEMPER AND MORAL HABITS. An irritable, passionate, and sour-tempered female is but illy suited for this important duty. Not only is the child liable to be ill-treated during her fits of ill nature and passion, but the most serious and alarming effects may be produced on its tender organization by the milk of such a nurse. Children have been thrown into convulsions by suckling soon after the mother or nurse has been agitated by violent anger or rage; and alarming vomiting and purging are particularly apt to occur from this cause.

Habitual sourness of temper, protracted grief, or mental distress and anxiety, and, indeed, every kind of in ordinate excitement or depression of the mind in the nurse, seldom, if ever, fail to exert a prejudicial influence on the health of the nurseling. This ought not to be overlooked in choosing a wet-nurse.

On the other hand, tranquillity of mind and evenness of temper are particularly desirable and important in a nurse, and no female ought to be admitted to this office who is, either by natural temperament, habitual indulgence, ill health, or other and extraneous circumstances, placed in an opposite condition. So say the doctors.

And I would add another reason, which would, with me, have a very considerable influence. *Fretfulness*, *ill humor*, and the whole category of such like unamiable qualities, are proverbially contagious. At no period of life are they more so than during the early months of infancy, and at no period do their baneful influences more deeply and seriously affect the whole future character of the subject of them.

The pernicious and long-continued, if not permanent injury, which the character of the nurse may have upon the temper and the disposition, as well as the intellectual powers of the child, is too seldom taken into consideration.

The importance of this subject was not overlooked by the ancients. Plutarch, in his advice to those mothers who either refused or were unable to nurse their own offspring, is careful to impress upon their minds its importance. "Such mothers," he remarks, "should at least be cautious to choose carefully the nurses and attendants of their children—not taking the first that offers, but selecting the best that can be had. These should, in the first place, be Greeks in morals; for not more attention does the body of man require, from the period of his birth, to insure the growth of his limbs in strength and symmetry, than does his mind, in order that to his moral qualities may be imparted the same firmness and perfection as to his physical."

I trust, therefore, that you will by no means disregard these qualities in your selection of a nurse, and if you can not obtain one who is nearly such as I have described, I hope you will not hazard your child's bodily health, and also his habits of mind and of feeling through life, and his moral and religious character during his entire future existence, by employing one of objectionable physical, moral, or religious character.

A *mercenary and unprincipled nurse* should never be employed, except from absolute necessity. If she has not a sufficent supply of milk, and is anxious to keep her place, she may deceive you by saying that she has a great plenty, while at the same time she frequently and clandestinely gives the child other nourishment of an improper quality, and at irregular hours, which will give rise to colic, griping, flatulence, or "wind in the stomach," diarrhea, and fretfulness.

To allay these symptoms, paregoric, or some other cordial containing opium, will be privately resorted to, and thus the child will fare much worse than when fed entirely by hand.

In a great many instances, while the parents suppose their child to be receiving the advantages of proper nursing, its health, and even life, is thus sacrificed to the secret practices of a nurse of such character.

But even if the nurse has plenty of milk, and that of good quality, she may be too careless to give proper attention to the child, particularly during the night, or she may have some affairs of her own she wishes to attend to during the day, or, at least, she may wish for freedom from confinement to the child during several hours each day, and for those purposes she may administer some anodyne once or twice daily, or perhaps more frequently; and, if questioned, stoutly deny it.

Wet-nurses are, moreover, scarcely ever either regular or particular in regard to their diet, and the good quality of their milk is very frequently impaired by indulgences in eating or drinking improper articles.

When the nurse is received into the parent's house, and is constantly under the watchful care of the mother's eye, many of these evils may be guarded against with a good degree of success; but when the child is removed from such supervision, the risk is not inconsiderable.

CHAPTER XIV.

WEANING.

The proper *age for weaning* infants from the breast depends very much upon the circumstances of each individual case.

The child comes into the world with toothless gums and instinctive powers adapted in the most perfect manner for drawing its nourishment from the maternal breast. It is not furnished with teeth, because neither the mode by which its appropriate nourishment must be taken nor the character of the nourishment itself requires such organs.

After the lapse of some time, varying in different instances usually from three to five or six months or more from the period of birth, the first two inferior cutting or incisor teeth protrude through the gums; in the course of from four to six weeks the two corresponding upper front teeth make their appearance; then, after a few weeks, the two lateral incisors of the lower jaw—one on each side of the two first—cut through the gums; and these are, after a few more weeks, followed by *their* corresponding lateral incisors of the upper jaw.

The process of teething is usually thus far accom-

plished when the child is from eight to twelve months old.

Now the growth and protrusion of the teeth is a very certain index of the development of the child's digestive organs, and indicates with great exactness the powers of the stomach and the demands of the general system in regard to nutriment.

Soon after the two first teeth have made their appearance, the use of artificial food may be advantageously commenced; and by the time all the above-named eight (four upper and four under) incisors or front teeth have attained an equal length above the gums, the digestive organs have acquired sufficient tone and activity to enable them to digest without difficulty a simple and appropriate artificial diet, and the general system has attained a state of development which renders such nourishment more suitable to the exigences of the organization than the less substantial aliment derived from the mother.

As a general rule, then, *this period*—namely, soon after the child has *eight teeth*—should be regarded as the proper time for weaning.

The child should, therefore, *now* be entirely separated from the breast, provided no adverse circumstances, on the part of either the mother or the child have rendered it necessary that the child should be separated before this time, or now demand that the nursing should be continued till some future period.

If this rule is followed, most children will, you perceive, be weaned when they are between nine and twelve months old. The rule itself is founded upon true physiological principles, and is in accordance with the plain indications of nature.

It can not, therefore, be departed from, unless there are special reasons for so doing, without compromising the best interests of the child; and I am entirely persuaded, both by experience and what appear to be the obvious intentions of our Creator, that if it were more universally followed no inconsiderable amount of sickness and constitutional infirmity, both of mother and infant, would be avoided.

In respect to the MANNER IN WHICH THE WEANING *should be accomplished*, I have but little to add.

I have already informed you that soon after the protrusion of the two first teeth, both a little variety of the most mild and bland articles of nourishment may be advantageous to the child, and also that the quantity and the nutritious quality of those articles of artificial food may be increased very gradually.

At first they should consist of arrow-root, tapioca, or cream and water sweetened with refined sugar, and articles of that class.

As the period of weaning approaches, small portions

of milk, thickened with rice or rice flour, of soft-boiled rice, of bread and milk, of bread and cream, and perhaps occasionally a little chicken, mutton, or beef-tea,* should be allowed the child two or three times a day; while, at the same time, the intervals of nursing should be more and more prolonged.

It is desirable that the gradual increase both in the quantity and nutritious quality of these and other similar articles of food should keep pace with the more or less rapid appearance of the teeth so perfectly that, soon after the above-named eight have all made their exit from the gums, the child shall have been, as it were, insensibly weaned.

Although this can seldom be perfectly accomplished, it should in every case be attempted. By this course of management, the infant's stomach will be gradually accustomed to a more substantial diet, and will be suf-

* It is of importance that these should be prepared in the proper manner. The plan to be adopted is as follows: Take a pound of lean beef or mutton, separated from fat and bone; chop it up as mince meat; pour upon it a pint of cold water; let it stand for two or three hours, then put it over the fire and let it heat so slowly that it will be at least half an hour before it boils; let it boil briskly for two or three minutes; strain the liquor through a fine sieve or cloth, and add a sufficiency of salt. The same plan may be pursued with chicken, but it is not essential that the bones should be excluded.

This is the plan that should always be pursued in making these teas. The nutritive properties of the meat are in this way much more abundantly obtained than they can be even by several hours boiling, if put into hot water at first.

ficiently prepared, when the proper period of weaning arrives, to admit of an exclusively artificial aliment, with but very little, if any, risk of injurious consequences.

In this way the digestive organs of the child will be preserved from the strong and deleterious impressions that can not fail to be produced by a more rapid exchange in the quality of the food.

The child will also be saved from the physical and moral evil effects arising from grief and disappointment, which may attend, in a greater or less degree, any more sudden transition from nursing to feeding.

The practice of suddenly taking the child from the breast has always appeared to me cruel, and I know that it can not usually be done without jeoparding the best interests of both mother and child.

The attachment of the child to the breast, too, will be greatly diminished. When it manifests great reluctance to a total separation from the breast, the weaning may sometimes be facilitated by applying some offensive substance to the nipples, such as aloes, infusion of Colomba, or gentian.

Some advantage may also be obtained by accustoming the child to drink out of a tea-cup, saucer, or glass, and thus early teaching it to receive its nourishment from vessels of this kind.

In some instances, as already intimated, there may be good reasons why the *weaning should take place at an* EARLIER PERIOD than the one above named.

As, for instance, the mother may be affected with *tubercular*, *scrofulous*, or *cancerous disease*, which may so contaminate her milk as to render it highly injurious to the child's health if she continues to nourish it at the breast.

Or she may be *debilitated* by an attack of acute disease, so that she can not continue to suckle her infant without increasing her prostration and superinducing a train of alarming symptoms.

Again, not a few young mothers are *incapable of supporting this constant drain* upon their systems for more than three, four, or five months, without becoming thin, pale, weak, dyspeptic, and harassed with a variety of distressing nervous affections which no medical aid can remove so long as the nursing is continued. These symptoms will be more particularly described at a future time.

The return of the menses during the period of nursing sometimes, but not always, produces a decidedly prejudicial effect upon the mother's milk. I have known, in several instances, the child to be made extremely sick from this cause, as was evident from the speedy recovery which took place immediately on removing it from the breast.

Sometimes they reappear when the child is very

young, and continue to return regularly without exerting any perceptible injurious influence upon the milk; of course, in such cases there is no occasion, on account of them, for weaning the child.

In such cases, however, there is rather more liability to a *recurrence of pregnancy*, a condition which frequently exerts a decided influence upon the milk, either greatly diminishing it in quantity, or deteriorating it so essentially in quality as to render weaning indispensable.

If in these cases the milk is simply diminished in quantity, and the mother is strong and healthy, there can be no particular objection to her continuing to nurse her babe for some time; but in most instances the vital powers are insufficient for this double drain upon them.

If the nutrient fluid is carried in undue proportion to the womb (and to the child within it) the milk is so seriously affected as to render weaning advisable.

On the other hand, if it is carried in a sufficient portion to the breasts to keep up the full supply of healthy milk in them, the child in the womb suffers more or less, and there is danger that its life may be destroyed, and a miscarriage be the consequence.

Such an occurrence is almost *certain to exert a very prejudicial influence upon the future health of the mother*, which is comparatively seldom removed before another return of pregnancy.

As already mentioned, MENTAL INQUIETUDE, deep grief

or sorrow, and other severe and violent affections of the mind, have a decided tendency to deprave the milk, and may render early weaning indispensable.

In some instances, too, *the milk loses its wholesome properties* at an earlier period than that indicated by the developments of the child as the proper one for weaning, and that, too, without any serious or obvious derangement of the mother's health.

When suffering from TOO PROTRACTED NURSING, or from receiving unwholesome food from the maternal breast at an *earlier period* than the one usually the most appropriate for weaning, children are usually found gradually to lose their fresh and healthy appearance. The countenance becomes pale, and acquires a languid, fretful, and sickly expression.

The digestive powers becoming enfeebled, they often throw up their milk soon after nursing, and daily pass more or less undigested curd, and also become harassed with colic, griping, acidity, flatulency, and diarrhea, attended with debility, emaciation, and frequently with scabby eruptions about the face and head.

In some instances, the abdomen becomes enlarged, full, tumid, and firm to the touch, as well as tender upon pressure.

Sometimes this state of the abdomen is accompanied with scrofulous swellings of the glands, or eruptions

about the neck or under the ears, and a very decided tendency to convulsive affections and inflammatory diseases of the brain and nervous system.

Whenever any of the above symptoms occur in a child that is nourished exclusively at the breast, we may presume that the milk has become depraved, and is injurious to its digestive organs.

If any doubt, however, exists as to the agency of the milk in the production of the disorder, the breast should be withheld from it for a day or two, and perhaps more, and artificial nourishment, or the milk of a healthy nurse, substituted in its place.

If the mother's milk has been the cause of the child's illness, an obvious amendment will soon take place; and should this occur, the child ought gradually to be entirely separated from the maternal breast.

On the other hand, there are causes which sometimes *render it advisable to* PROTRACT THE PERIOD *of nursing* beyond the ordinary time; as, for instance, the child may be attacked with disease, or the digestive organs of the child may be in too enfeebled a state to digest other food with equal facility, from a recent attack of acute disease, or from the irritation of teething, or other causes acting temporarily.

Or the period otherwise proper may occur during

the *hot months of summer*, when there is always occasion for especial precaution against any changes that may tend to produce bowel complaints.

Or there may be a *morbific atmospheric influence* prevailing, and producing a strong predisposition to disease, and much sickness in the community at other seasons of the year.

Under *any of these circumstances*, unless there is evidence that the mother's milk has become decidedly deteriorated, it will be altogether advisable that the weaning should be deferred to a more favorable time.

In most cases, it is not advisable to wean a child, unless it can be done entirely insensibly to itself, during the months of June, July, August, or the first part of September.

It is also undesirable to wean a child during the coldest parts of the year.

The milder months of March, April, and May, September, October, and November, may, all other things being equal, be regarded as the most favorable for this purpose.

Nevertheless, as above stated, should the child be manifestly suffering from a deteriorated state of the milk, it ought to be separated from the breast without regard to the season of the year or number and growth of its teeth; for a bad condition of the milk would evidently be more injurious than suitable artificial nourishment.

But if the milk remains good, the bland and congenial nourishment of the maternal breast can not, under the circumstances above named, give place to the mildest artificial food without more or less risk of injurious consequences. This is particularly the case when the child has been reduced by disease.

During sickness the child should never be weaned, unless it appears evident that the sickness is caused or continued by a bad condition of the milk.

In some instances, too, where the *mother's* HEALTH *continues good, and seems to be the better for nursing*, and the milk also remains unchanged, it may without injury form a part of the child's nourishment for some time longer than would be indicated by the teeth; yet his organization demands that he should have a very considerable quantity of other and more solid food.

It is seldom the case, however, that the milk does not become deteriorated in quality by the time already pointed out as the proper period for weaning; and, in proportion as the period of lactation is protracted, it usually loses more and more its wholesome and nutritious character.

CHAPTER XV.

DIET OF CHILDREN AFTER WEANING.

I BELIEVE I have already indicated with sufficient definiteness the character of the nourishment required up to the period of weaning.

After this time a considerably greater variety of food may be allowed. There should be a gradual change to articles of a more solid texture, so that by the chewing of them the salivary glands may be brought into a proper degree of activity.

Good rich cows' milk, however, whenever it can be had, should constitute a very considerable proportion of the food for some months, if not years.

But no specific articles can be named which will agree with the peculiarities of every child's stomach, or that can in all cases be commanded by the parents.

The true plan is for each mother to carefully observe such peculiarities as may exist in each individual child, and adapt its food to its wants; always making changes with much caution, and carefully noticing the effects. If the change is a good one the new article may be continued; but if not, it should at once be abandoned.

With some, flesh meats, plainly cooked, may be ad-

vantageous, and if there is a decided relish for them, I have no doubt they may be beneficial during the cold season of the year; but when there does not seem to be any instinctive desire for them, children will usually be quite as well off without their use.

There is, perhaps, no subsequent period in which there is so much injury done to children by giving them improper articles to please their palates as during the first few months and years after they are weaned.

A stick of candy, a few sugar-plums, or a piece of cake or pie, is found exceedingly convenient for keeping the little one quiet; and then, withal, he loves it so well, and enjoys so much in the eating, that the temptation to grant such indulgences is exceedingly strong.

Unfortunately, it is rarely resisted with that constancy, even by well-informed and careful mothers, that the best interests of the child demand.

Young children should never be allowed to taste of pies or pastry, unless it be cookies or seed-cakes of the very plainest kind. All indulgences in the use of these articles are injurious in proportion to the quantity used, the time of day at which they are eaten, and the weakness of the child's digestive organs.

A very considerable amount of the ill health of the

children in our cities that is attributed to bad air may, perhaps, really be attributable to their greater use of these articles than is allowed to children in the country.

It is, indeed, a matter of astonishment to see how long some children are able to resist to the extent they do the evils of such imprudences on the part of their attendants.

But sooner or later they are sure to suffer from such constant inattention to their stomachs, and to show, by their pallid countenances, expressive of pain, anxiety, unhappiness, and fretfulness—by their loss of appetite for all simple and wholesome food—by their nightly thirst and inward heat, which leads them to kick the clothes off as soon as they have fallen asleep—by their sour stomachs, their frequent headaches and vomitings, or intractable diarrheas—the severity of their sufferings from this cause.

If they survive the period of childhood, their stomachs never regain what has been thus lost, and they find, in after years, that they can secure a comfortable degree of health only by the most constant care to avoid such articles, especially between the times of their ordinary meals.

The evil consequences of taking any thing into the stomach between meals, especially during the first two or three hours after the eating of the regular meals, and while they are undergoing the process of digestion, are much greater than is usually supposed. I have

never yet known the person who could retain the best of health for any considerable time while in the indulgence of such habits.

How, then, can the delicate stomachs of young children endure such a constant source of irritation without the most serious consequences ?

They certainly can not ; and I warn you, as you love your child, not to destroy him by such indulgences. If you must allow him to taste of such things, let them constitute a part of his dinner ; but do not permit such articles at any other time during the day.

It will be for his interest and your own happiness, however, to regard them as altogether out of the question, and then there will be no longing and teasing for them, and very little unpleasant feeling for the lack of them.

Fresh, ripe, and pleasant FRUITS, however, taken in connection with the ordinary food at meal-times, are to be regarded as conducive to the health of children, as well as of adults, and in their respective seasons may, with advantage, be freely used, either cooked or uncooked, according to the taste of the eater, but should not be allowed to form the principal part of the meal. The practice of cooking, for the use of the table, unripe apples, currants, gooseberries, and other

fruits, can not be regarded otherwise than as decidedly pernicious.

Apples, peaches, and other fruits may be dried and afterward cooked in water, with but little, if any additions, and eaten freely.

Preserves, on the contrary, are not designed for the use of children, and should never be given them. In general, all fruits having a firm, tough skin, such as grapes, whortleberries, &c., are improper for children: cherries are particularly apt to irritate the stomach and bowels. All unripe fruits should be carefully withheld from them.

It is true that many children in this country do eat more or less unripe fruit, without being made alarmingly ill by so doing.

But it is well known that severe sickness, and death even, are often the consequences of such violations of proper rules, and we must be stupid, indeed, if we can not, *do not*, at once see that, if such articles are *capable of producing*, *and do frequently produce such extremely injurious consequences*, they must and will inevitably produce similar, though less conspicuous and disastrous consequences, in nearly, if not quite every instance where they are taken into the stomach.

Mothers are quite too prone to think that if their children are not MADE SEVERELY SICK by eating improper articles, or at irregular hours, they are not in the least injured.

But I trust your own good sense will at once show you the error of such a supposition, and will lead you to guard the delicate stomachs of your children from the evils that must result from improper articles of diet, and the taking of even proper articles at improper times, with at least as much care as you use in regard to your own health.

There can be no doubt but that many children's stomachs, at this age, receive injuries which are not noticed at the time, but from which they never recover in after life.

Children seem to have a natural *taste for sugar*. It is the only condiment, says Leroy, proper during the period of infancy. Whether or not they should be indulged in the use of sugar and other saccharine substances, has, however, been a subject of dispute among physicians; but, as says that old author Slare, "He that undertaketh to argue against sweets in general, taketh upon himself a very difficult task; for nature seemeth to have recommended that taste to man and all sorts of creatures."

Nevertheless, there have been writers of no mean eminence who condemned in the strongest terms the use of sugar and other sweet substances, as injurious to the stomach and destructive to the teeth, and otherwise prejudicial to the system.

How such an opinion could have originated it is impossible to imagine, for it is abundantly shown to be a highly useful and nutritious article of diet, and conducive to health when taken in moderation; but it should be combined with other alimentary substances.

It is in combination with mucilage and other substances that it is found in the cane, which the experience of all mankind has shown to be a most useful and nutritious article; hence, as a general rule, sugar should be given to children rather as an addition to other less nutritious and palatable articles than as a principal food. But in this way it may, beyond all doubt, be very freely allowed. Indeed, it is a NECESSARY *condiment.*

SALT, *too, is essential for the preservation of health.*

Where it has not been daily furnished, the digestive organs often become enfeebled, and the child presents all the symptoms known among mothers as "worm symptoms." I have known many cases of this character where the furnishing the child with a little salt daily speedily removed all indications of ill health.

Oftentimes, too, when a child has no appetite in the morning, the administering of a little salted water will operate most favorably.

The use of salt in the ways above named is not un-

frequently called for in districts of country far removed from the sea-coast.

Children should be taught to eat slowly, and never be required to hasten, as is too often done.

They may, however, very properly be required to eat continuously, and without those long moments of interruption in which they are sometimes prone to indulge.

After meals they should be encouraged to keep quiet, and refrain from all violent exercise of body or excitement of mind, as these seriously interfere with the process of digestion.

Young children usually require four or five meals a day, instead of three. The first may be taken very soon after rising in the morning. The last in the day should be of light food, and small in quantity: it is well that it should be taken half an hour or more before they are put to bed for the night.

CHAPTER XVI.

EXERCISE.

If children are born at the mature age of nine months, and are ordinarily healthy and strong, they should be taken up, after they are one or two weeks old, every day from under the bed-clothing or other incumbrances, and placed upon their backs upon a mattress, or upon a folded bed-quilt laid upon the floor, or upon some other tolerably firm and unyielding, yet soft substance, for a few minutes, and encouraged to play. They will soon begin to show the pleasure they feel at this unrestrained liberty. With the increase of age, the length of time they spend in this situation may be correspondingly increased.

This exercise may be repeated two, three, or more times a day, if convenient; but should be continued at any one time only so long as seems to be agreeable to their feelings.

As they grow older, they will turn upon the side and upon the face, and may amuse themselves with playthings for a considerable time each day, much to their own comfort and happiness, as well as health and muscular vigor.

After due time, they will begin, of their own accord,

to assume a sitting posture, and then this may be encouraged, and pillows may be placed around to protect the head from injury in case they should fall; but you ought not to be too anxious to have them sit up before they show, of their own accord, sufficient strength to do so, lest you injure the spine and make them hunch-backed, or, at least, round-shouldered.

The same remarks are applicable to the matter of walking. Children will usually show a disposition to walk as soon as their bones and muscles have attained sufficient strength to enable them to do so without injury to themselves. If you encourage them too soon to do this, you will run some risk of making them "bow-legged."

It is well, also, to begin early to teach children to depend upon themselves, and when they fall over to let them right themselves up again if they can; it will be a healthful exercise, and may have more to do with their future characters than we are apt to imagine.

After children have become strong enough, and have acquired the free use of their limbs, they should be allowed, in pleasant weather, to run about out of doors; and if they can have a grassplot to play upon, they should be allowed to spend much of their time upon it.

Let them learn to pick themselves up if they fall, and thus acquire a sort of manly independence. Do not be constantly cautioning them against the dangers

that may attend their play, or show anxiety about them in your countenance or in your manner.

Children who are never suffered to surmount the little difficulties which occur in their sports seldom fail to become unduly timid, helpless, and irresolute in their actions. For this reason, parents ought to avoid intimidating them with a constant dread of falling or otherwise hurting themselves.

The custom of exaggerating the dangers incident to their usual sports, and of plying them constantly with admonitory injunctions against accidents, is calculated to favor the occurrence of the very accidents which they are intended to obviate by the timidity which these perpetual lessons of caution induce.

It is, under favorable circumstances, much better to let the child take the chances of a few falls, and give him the privilege of running till he is satisfied. Noth ing can be more invigorating to the whole organization than unrestrained exercise in the open air, out of doors, under the supervision of a judicious and prudent nurse. And when they happen to hurt themselves, they should not be soothed by expressions of extreme pity and sorrow; for, says Sturve, "plaintive words and expressions of great sorrow tend very effectually to render them *effeminate and timid.* Children who are accustomed to such commiseration seldom fail to acknowledge this tender sympathy by straining their little lungs to the utmost upon every slight injury they receive."

Children of all ages and both sexes should be allowed the most perfect liberty of exercise during some part of each day. Upon this and upon pure air will, in a great measure, depend their health and vigor, both of body and mind, during their whole lives.

They, like the young of all animals, feel an instinctive impulse to active bodily exertion. A large portion of the waking hours of childhood should be thus spent. This is not only the dictate of reason, but also of experience. Exercise strengthens and perfects the whole bodily frame. Study, by improperly directing the vital energies in undue proportion to the brain, enfeebles it, and checks its growth.

Young children should not, therefore, be encouraged to engage in sedentary games and quiet in-doors amusements, whenever the circumstances will admit of an opposite course. They should be encouraged in lively, active, out-of-doors play. Let them walk, run, skip, and jump; let them put things together and separate them, erect and destroy houses made of blocks and other materials, trundle the hoop, and all such kind of sports. All these are diversions that ought to be encouraged, and the necessary articles supplied.

Those who live in the open country, however, where the natural objects afford sufficient amusement, and where they can safely wander "o'er hill and dale" with all desirable freedom, have little need of such playthings as are requisite for those who are confined

to the dull monotony of a city life and confinement within doors.

Female children require nearly the same exercise as the other sex, and should be encouraged in out-of-doors sports—their clothing being constructed with a special reference to their wants in this respect. The delicacy of complexion secured by keeping them within doors is dearly bought at the expense of health and a cheerful mind.

As society increases the charms of exercise, it is well, whenever it can safely be done, that children should be allowed to assemble in considerable numbers for their amusements; but in this case it is desirable that they should always be under the watchful eye of some judicious person, who will simply guard them from dangers and prevent their doing mischief, without any unnecessary restraint upon their movements or interference with their sports. They should not be allowed to depend upon such person to assist them in their play. They should depend upon themselves.

No class of children more need, nor are any class more benefited by these active out-of-doors exercises and sports, than those of a weakly and sickly constitution, who are quite too often encouraged to an opposite course, by which their feebleness is increased, and such habits induced as must insure a whole life, but, in all probability, a short one, of disease, and want of either efficiency or happiness.

But I must not close these remarks without uttering a word of caution against clothing children too warmly when they are engaged in walking or other active out-of-doors exercise, as is too often done. Children who have been treated in the manner I have pointed out, will scarcely need any additional clothing, except a hat or cap, when thus engaged, at any season of the year.

Even in cold weather, they will be benefited by such exposures to the cold air. Let them keep themselves warm with exercise, and be taught to return to the house before getting cool, and they will be in far less danger of taking cold than they will be if incumbered with additional clothing. Their motions will be more free and lively, and thus contribute to vigor of both body and mind. The temporary exposure of the skin to cold air, also, will tend very much to strengthen the system. It will be followed by a most agreeable and invigorating reaction.

If too warmly clad, they soon tire, and become bathed in a profuse and debilitating perspiration, and will then often sit down in the cold air until they have "taken cold."

That the exercise of strength increases strength, is an old maxim, but nevertheless a true one; yet it is one that is sadly neglected and disregarded in our day. The witnessing of this neglect causes me oftentimes to think of the following remarks, made long ago by a dis-

tinguished physician. "The alde manly hardnes, stoute courage, and peinfulnes of England is utterly driven awaye," said he, "in the stede wherof men nowadays receive womanlines and become nice, not able to withstande a blaste of wynde. And our children be so brought that if they be not all daie by the fire with a toste and buttrie, and in their furres, they be straight sicke."

CHAPTER XVII.

SLEEP OF INFANTS.

I HAVE already spoken incidentally in regard to the *sleep of infants*, but it may be well for me here to add a few words.

The sleep of infants and young children should ordinarily come from a natural tendency to repose, prompted by proper nursing, food, and exercise.

It may be proper, it is true, oftentimes to soothe them to repose by gentle fondling, or the soft lulling notes of some nursery air, or, if a cradle with rockers is used, by its gentle motion; but if these do not quickly succeed in producing the desired effect, it is usually best to desist for a time from further efforts.

It is astonishing to witness the perseverance of some mothers in their efforts to cause their children to go to sleep at any time that will suit their convenience, and painful to be a spectator of the unhappy feelings sometimes produced in the infant by such ill-advised measures.

It may be regarded as a very immaterial matter whether *cradles* with rockers are used or not. The gentle motion sometimes appears to be very soothing,

and I see no objection to its occasional employment but if one is used, care should be taken not to rock it after the babe is asleep.

When laid down to sleep, their *eyes should always be protected from a bright light*, both by day and by night; by day they should be turned *away* from the windows, and at night from the lamps.

Their faces should never be covered or imbedded in the pillow, so as to obstruct their breathing.

It is better that they should be laid upon one side, and not upon the back.

When sleeping, they should not be intentionally awaked without good reason.

When *sleeping*, *they should be covered with sufficient clothing* to protect them entirely from the slightest cold, and, at the same time, care must be taken against laying them down, in the daytime especially, with so much clothing upon and over them as to throw them into a *profuse and debilitating perspiration*, as is quite too often done by young mothers.

In cold, and also in the temperate climates, beds of feathers are very allowable, but not so in warm.

The bed-rooms of children should be large and airy; to say that they should be kept clean with scrupulous care is unnecessary.

They should be kept quiet, but not too much so.

It is desirable that no plants should be kept in their sleeping-rooms.

At night, young infants, ESPECIALLY IF FEEBLE, *should* SLEEP IN THE SAME BEDS WITH THEIR MOTHERS.

This is particularly important during the colder seasons of the year, and where the room is not kept of a uniform temperature throughout the whole night, as it is through the day.

But under other circumstances, and after they are several months old, it may be well to have them occupy small cots by themselves; the cots, for convenience' sake, being placed by the bedside of the mother.

I do not give these directions thoughtlessly or without *good reasons;* they are not only agreeable to the instincts of nature, but in accordance with the dictates of common sense and sound philosophy.

In the young of all animals the vital powers are comparatively feeble; for this reason, they require protection from the cold and all other depressing influences. They must receive warmth from some source external to themselves, and it is in many instances highly important that this warmth should be of a peculiar character.

Of all creatures, young infants are the most helpless. The feebleness of their vital powers is extreme; their power of resisting the depressing influences of low temperatures is so very slight that, if left unprotected in but a moderately cool atmosphere, they soon perish.

As they become older, until past the middle period

of life, all the vital powers are constantly becoming stronger—all the vital operations are performed with more vigor; they have the power of generating within themselves a greater amount of animal heat or warmth.

This warmth, which is always modified by a vital influence, becomes, to use the language of chemists, more highly charged with vitality; it carries with itself, to whatever living being it is imparted, more of the vitalizing power: if imparted to the young infant, it carries a degree of *vitality* with it.

In this respect, it is essentially different from warmth derived from any other source whatever, electricity not excepted, and is, for this reason, far more congenial both to the feelings and the necessities of the young.

By sleeping with their mothers, therefore, young infants derive from them not only warmth, in the common acceptation of the term, but a vitalizing influence—a vitalized warmth—a direct increase of vitality, which causes that warmth to continue longer than that derived from any other source.

This vitalizing and health-giving influence is so great that, when the young infant is fatigued or slightly unwell, a few hours of *brooding in the bosom of its healthy mother* will often restore its wonted animation or health far more surely and quickly than any other means that can possibly be devised.

This is a *truth* worthy the special attention of all young parents. Very many of the older and more ex-

perienced mothers have become fully convinced of it from the results of their own observation in the care of their own children.

Hence the instinctive desire on the part of the young to sleep in close contact with their mothers, and on the part of mothers to have their young nestled close by their side. We accordingly see the hen gathering her chickens under her wings, at first, during the greater part of the day; the amount of time being gradually diminished as they grow older. We also see the young of all animals receiving like attentions from their dams. In some animals this instinct is even carried so far, that the male parent occasionally relieves the mother in the performance of this agreeable office.

Children should be accustomed to being put to bed early at night, and to being taken up early in the morning. They will then be more ready for a sleep in the fore part of the day, than if allowed to sleep late in the morning, and, consequently, be more ready to be put to bed early in the evening, than if allowed to sleep until a late hour in the morning.

From the second year, and up to the third or fourth, the child should be permitted to sleep for an hour or so before its dinner. Subsequently this may gradually be discontinued; but it must be recollected that during the whole period of childhood more sleep is required than in adult age. The child, therefore, should be put to rest every evening at an early hour; and if it be in

health, it will sleep soundly until the following morning. No definite rule, however, can be laid down in reference to the number of hours of sleep to be allowed, for one will require more or less than another. The amount of sleep necessary to preserve health varies according to the state of the body, and the age and habits of the individual: the amount being greatest in early infancy, and gradually and somewhat regularly decreasing until, in advanced age, many do not spend more than four, five, or six hours in sleep. Regularity as to the time of going to rest is exceedingly desirable

It is a cruel thing for a mother to sacrifice her child's health that she may indulge her own vanity; and yet how often is this done in reference to sleep. An evening party is to assemble, and the little child is kept up for hours beyond its stated time for retiring to rest, that it may be exhibited, fondled, and admired. Its usua portion of sleep is thus abridged, and, from the previ ous excitement, what little he does obtain is broken and unrefreshing, and he rises on the morrow wearied and exhausted.

Once awake, he should not be permitted to lie longer in bed, but he should be encouraged to rise immediately. This is the way to bring about the habit of early rising, which prevents many serious evils to which parents are not sufficiently alive, promotes both mental and corporeal health, and of all habits is said to be the most conducive to longevity.

A child should never be suddenly aroused from sleep. It excites the brain, quickens the action of the heart, and, if often repeated, serious consequences might result. The change from sleeping to waking should always be gradual.

A child should never be allowed to sleep with persons in bad health, or those far advanced in life.

Those who possess the means should avoid placing several children in the same room, or two in the same bed.

The putting of her young children to bed for the night should be regarded by every mother as her exclusive *privilege.* It is one of those *sacred maternal duties* which can never with propriety be delegated to any other person, excepting when severe illness or other unavoidable circumstance renders it impossible for her to attend to it in person.

She should teach their infant lips to raise the grateful voice of thanksgiving, praise, and prayer to the great Giver of every blessing.

It is of the utmost importance, too, that any and all unhappy feeling there may have been excited in the mind of the child during the day, should at *this time*, and by HER kind words and *manifested* affection, be entirely banished from his breast, so that he may now sink peacefully to rest, while enjoying the sweet consciousness of being the object of his *mother's* LOVE.

CHAPTER XVIII.

MENTAL INFLUENCES.

Hitherto my remarks have been almost entirely confined to what may be termed the *physical* wants of infants. There are, however, other sources of health and disease, as well as of happiness and misery.

A healthful state of the mind and feelings is as important as of the body. Indeed, the *feelings constitute an ever-acting source of bodily health or disease*, and also a principal source of our enjoyments as well as of our sufferings; and upon their proper regulation most of the happiness and true value of human life depends.

I am aware that remarks upon this topic may to some appear to be uncalled for in a work like this; but the influence exerted by the mind upon the bodily health at *all* periods of life is so great, that the subject can not with propriety be passed in silence.

All the passions and emotions of the mind, when strongly excited, send the blood in undue proportion to the delicate structure of the brain. In this way they sometimes prove immediately fatal to the life of the individual. In other instances, they produce a diseased

state of that organ. If too much indulged, they may thus, through the influence of the brain, soon induce disease of an acute and immediately dangerous character.

In more frequent instances, however, their influence upon the bodily health is less immediately apparent, but nevertheless quite as certain. Nor is their influence less certainly effective, for good or for evil, when they are less strongly excited, or in infancy than in adult life.

The powerful and all-pervading influence they may have over the bodily health, and the entire well-being of the whole individual, can be but imperfectly appreciated, even by those who make it a matter of special study and investigation.

"The more closely," says that distinguished medical writer, Sir James Johnson, "we watch the play of the passions in their effects upon the material fabric, the more we shall be convinced of their powerful influence for good and for evil."

In reference to their influence upon the functions and secretions of the body, they may be divided into *two classes*. Those which have a beneficial and healthful influence constituting one class, and those which have an opposite influence the other.*

* It has been the custom of medical writers to divide them into the

Among those which have a healthful influence may be named *cheerfulness*, *contentment*, *gratitude*, *hope*, *joy*, and *love*.

The exercise of these, and others of the same class, is *always beneficial to the health of the body.* Under their influence the digestion is carried on with regularity and ease, causing healthy blood to be formed; the breathing is full, free, and easy, by which the blood, in its passage through the lungs, is deprived of its noxious qualities, and fully arterialized, and fitted to nourish and stimulate the brain and the whole system into due activity. The heart, too, beats strongly, and with ease sends this pure blood to all parts of the body, even the most distant, in due quantity and with due force.

The result is, that the secretions of all the organs are carried on with healthful activity and without irritation. The skin is kept in a moist and healthful condition. The nervous energies are well distributed over the whole system, and to all parts of the surface. The power of resisting the influence of atmospheric changes, or noxious vapors, and exhalations is kept in activity, and an equable warmth is easily main-

exciting and *depressing*, according as they excite or depress the circulation. By this classification, the passion of *love* is included in the same class with the passion of *anger*, which is certainly, in some respects, very improper; for, although they both excite the action of the heart, the one, through the secretions, invigorates, and the other debilitates the system; the one is a health-promoting, and the other a health-destroying passion.

tained against the depressing influences of low temperatures.

Or, perhaps I ought rather to say that the exercise of these passions has a direct and powerful tendency to promote and maintain such a state of health, and, in case of its absence, to restore it. This tendency of all the genial passions is so strong and ever active, that it has with much truth been said by a very distinguished writer, that the person whose affections are in a healthful and prosperous condition, very seldom has occasion to complain of functional inactivity or disorder.

In early life, by promoting the free, easy, and healthy action of all the organs, they tend to increase the growth and strength of each in particular. The heart, the lungs, the liver, and the brain, each and all, in their development, are materially influenced by the operation of mental causes; and then this healthy condition of the physical organs reacts upon the mind, increasing the strength, energy, vigor, and vivacity of every faculty.

On the other hand, such passions and emotions as *envy*, *jealousy*, *hatred*, *anger*, *revenge*, *sorrow*, *fear*, *grief*, and *anxiety*, may be named as belonging to that class which have an *unhealthful* and *pernicious influ-*

ence—an influence of a nature directly opposite to that exerted by the passions belonging to the other class.

By the indulgence of these the appetite is diminished, and the process of digestion deranged and impeded, causing the formation of a diminished quantity of blood, and that more or less deteriorated in quality.

By some of them, such as *grief*, *sorrow*, and *anxiety*, both the frequency and the fullness of the inspirations —the breathing is diminished, and then, on account of this want of a proper expansion of the lungs and a sufficient supply of pure air within them, the blood, in its passage through them, fails to be properly purified. The heart beats with less frequency and with less force, and fails to send the blood with due quantity and force to all parts of the system. The brain and nervous system become oppressed, occasioning depression of spirits, debility, inactivity, feebleness, and inefficiency.

The extremities—the feet and hands—fail to maintain their proper warmth. The skin becomes dry, and harsh, and pallid. It also becomes astonishingly sensitive to cold, and all other deleterious atmospheric influences, and the whole system becomes exposed, in a very unusual degree, to all influences of a nature calculated to produce disease.

Of the influence of this class of passions upon the secretion of milk in the breasts of nursing women I have already spoken. That they exert a similarly in-

furious influence upon many of the other secretions, is well known to physiologists; and that they exert a like influence upon the remainder appears altogether probable. That they often give rise to long, severe, intractable, and even fatal diseases, is also a fact well known to every observing physician.

The above is but a very imperfect representation of the *influence of the passions upon the physical system.* Those of one class tend to the production of *Health*, *Prosperity*, *Happiness*, and *Longevity;* those of the other to *Ill Health*, *Inefficiency*, *Unhappiness*, and an *early Grave.* They all have a strong tendency to perpetuate themselves, and grow more and more intense, as well as to draw into their company others of like character.

All those of the first class—all the genial emotions, should, therefore, be cultivated and strengthened by being brought into a state of as constant activity as possible. The same course should also be pursued with respect to all those passions which we wish to have predominant. The social affections, too, should each and all be brought into exercise, and by that means be strengthened and increased; while all the opposite qualities of mind and heart should be kept in an inactive state. If any of them are unhappily excited into activity at any time, the excitement should be allayed as

quickly as possible, so as to prevent the passion from gaining strength by exercise.

The child that is made happy and cheerful to-day will be made happy to-morrow the easier for having been happy to-day. The child who has to-day had his filial affections brought into exercise will to-morrow love his parents the better for having loved them to-day. So too, on the other hand, the child who is rendered peevish to-day will on this account be rendered peevish the more easily to-morrow, and the child that is made angry to-day will for this very reason be made angry by a slighter cause to-morrow; and the same is true of each and all the other emotions and affections of the mind.

It is in the power of parents, and especially of mothers, to do very much during the early life of their children toward *determining which class of passions* shall have the predominance in their minds during the remainder of life.

Let, then, that most responsible, yet delightful task of giving a right direction to the thoughts and feelings of your offspring receive your earliest and most persevering attention. Remember that the state of mind and the feelings which you habitually cherish and indulge before your confinement, ever will have a serious influence upon the mind and disposition of your child.

Remember, too, that after birth not only will the quality of your milk be affected by the state of your own feelings, but there will also be added the powerful influence of a *mother's example* ever operating upon the mind of the child from the very first days of life.

If, then, you are influenced by no higher motives, let the welfare of your child, not only during this life, but for the life to come, lead you to use every effort in your power to maintain as habitually as possible a *calm, cheerful,* HOPEFUL, *and happy state of mind.*

Let it be your constant endeavor to be yourself an example of every excellence of character and habit which you wish to cherish in your child.

If a proper example is constantly set before children, and advantage taken of every proper occasion to impress upon their tender minds the best of sentiments and passions, the happiest results may reasonably be expected.

In most, if not all instances, sincerity, truth, honesty, fidelity, benevolence, generosity, and their kindred virtues, may be made to become characteristics closely interwoven with the constitution and the habits spontaneously practiced and indulged.

On the other hand, those parents who are themselves addicted to the indulgence of unworthy or anxious thoughts and feelings, or to habits of idleness, negligence, or others of like character, or to vices, can never, by precept, ingraft upon their children opposite hab-

its, and those virtues to which they are themselves strangers.

It is a most *important practical truth* that each and all passions and emotions of the mind, when once *too strongly* excited, become the more and more easily excited again and again, and for a longer time, by the repetition of the same cause, and so on continuously; so that by repeated and continued excitement any one of them may be made to become the predominant habit of the mind.

But, most unhappily, this truth, which is of such vital importance that it should be known and regarded by every one, especially by every one having the care of young children, seems to be but little known, and perhaps less regarded by most people.

Indeed, in quite too many instances, an opposite error appears to be regarded as the truth; as, for instance, it is, I believe, a very common impression that when a child has been frightened or otherwise unhappily affected by any sound, or by the sight of any object, a repetition of exposure to the same influences will have a strong tendency to remove the evil; and for this reason children are often and designedly compelled to endure repeated frights.

Nothing can be more erroneous, either in theory or

in practice. The child that has been greatly frightened at the sight of any object, or the hearing of any sound, can never have his susceptibility to fright from the same cause diminished by *such compulsory* measures; but, on the contrary, will be frightened worse and worse at each successive exposure under like circumstances.

This will be the case, in most instances at least, even if the child has arrived at that age when his reason may be fully convinced of the perfectly harmless character of the object at which he has been frightened. His *reason* may be convinced of the utter folly of being frightened, but, nevertheless, at the next occurrence of the cause his fright will return. The feeling is excited before the reason and judgment are brought into operation.

The true and proper mode of overcoming the evil is to cause the child to be kept entirely free from the unhappy excitement. This may often be done by causing him to see or hear the object of his alarm at a distance, and while he is himself held calmly and affectionately in the arms of his parent, so that the emotion of fear shall not in the least be excited. If this can not be done, let the child, if possible, be kept from it entirely, until time and age shall have effaced from his memory all traces of the influence of the unhappy event.

So, too, if a young child has been *frightened* by be-

ing left alone in the dark, the way to cure him of his fright is to take special care that he shall not again be so exposed; rather let the mother remain with him in the dark, time after time, until he loses his fears.

So, again, those children who at an older age are afraid to go into dark rooms or other places in the evening, should never be *required* to do so. It is a very much better way to refrain from asking it of them. If but little notice is taken of the matter, and a proper example is set before them, they will soon be relieved of their timidity.

And here let me remark, that children should never be shut up in dark cellars or closets as punishment for their faults. We frequently hear of the most serious consequences resulting from such ill-advised measures: some children being thus deprived of reason, and others of life.

When such sad results occur, they are caused by fright or grief, or by the combined influence of both these passions.

The conclusion that a less evil will assuredly follow a less excitement of these and similar passions, although the evil itself may not be immediately apparent, *is inevitable.*

If, however, the alarm or other excitement of the feelings has been only moderate in degree, the evil effects may sometimes, perhaps, be removed by repeated exposures to the cause producing it. Much, *very much*,

will depend upon the nature and degree of excitement, and also very much upon the mental character of the child.

Whenever, by the above injudicious practices, or by any other means, the sensations of fear, grief, or any other of the depressing passions have been deeply engraven upon the mind during infancy, they are seldom entirely eradicated in after life; but they often palsy, to a greater or less extent, the powers of reason, and produce a deplorable state of mental imbecility, which not only detracts from the comfort and efficiency of the individual, but in a peculiar manner exposes the physical system to the inroads of serious bodily disease.

But it is not my purpose to enter largely into a consideration of the powerful and ever-acting influences which the moral and intellectual education of children may and does exert upon the health and well-being of both body and mind. I can here only make a few brief remarks.

It should always be remembered that the *body*, the *disposition*, the *habits*, and the *moral feelings* should receive special care during the first years of life.

Yet it is but too commonly the case that the entire system of nursery management, if system it can be

called, has a direct tendency to call into action at an early age very many of the worst passions of the child. The nurse, or mother, or both, either yield entirely to all the freaks and whims of the child, or they compel the child to yield to theirs.

A spirit of resentment, and a habit of retaliation, is often inculcated and encouraged by placing a stick in the hands of the infant and teaching him to strike and whip the "naughty chair, stool, table, or other object against which he may have been so unfortunate as to have hurt himself. In this way a strong desire for revenge has often been deeply and permanently implanted in the breast by the unwise conduct of her whc should have inculcated the opposite state of feeling, and cherished habits of forgiveness."

A peevish and fretful disposition, as already intimated, is sometimes the result of errors in diet, or too close confinement in an impure and stagnant atmosphere, by which the energies of the system are impaired, and the digestion materially impeded; but it is also too often the result of impatience or want of temper, and consequent neglect or unkindness on the part of the nurse, or—must I say it—the mother.

I well know that such conduct is not natural to the maternal heart, and does not appear uncaused. It is a sad truth, and I grieve to say it, that nursing mothers too often are allowed, and allow themselves to be so much occupied and oppressed with family cares,

anxieties, and labors, as to entirely disqualify and disable them for the proper discharge of the more sacred, important, and imperative duties of a *mother*, which should ever and at all times have the pre-eminence.

An infant whose natural inclinations are constantly thwarted; whose mother or nurse places it in the cradle, and attempts to force it to sleep when it would be awake and playful; whose disinclination to repose, and the cries by which this is expressed, expose it to angry chidings, a passionate slap, or a rough shake from its attendant; or whose calls for its natural food, or desire to be amused and diverted, are constantly repelled by equally injudicious means; who is at one time dandled and coaxed, in order to induce quietness, and at another is scolded and beaten for the same purpose, will seldom fail very soon to become discontented, fretful, and peevish to a most uncomfortable extent.

It is astonishing how soon, by simple mismanagement or neglect, the naturally cheerful and joyous dispositions of infants may become impaired or exchanged for a state of almost constant fretfulness and discontent.

CHAPTER XIX.

GOVERNMENT AND HABITS.

A DUE *attention to the* GOVERNMENT, or, more properly speaking, to the moral education of children, is seldom commenced sufficiently early.

Even in the cradle, the exhibition of *fear*, *anger*, resentment, *jealousy*, and their kindred passions, is by no means unfrequent, and, if not speedily counteracted by prompt and judicious management on the part of the parents or nurse, they sometimes become prematurely developed to a fearful extent.

But the character of the measures which shall be adopted for the accomplishment of this object is by no means a matter of indifference.

In early infancy the *excitability of the nervous system*, which is always greater than in after life, may be so excessive that an unusual sound, an angry look, a loud tone of voice, a repellent countenance, or a rude shake, may give such a shock to the system as to greatly increase the sensitiveness of the child, and, if often repeated, may impress upon its character such a degree of timidity as to be to it a constant source of unhappiness and inefficiency during its whole life; or it

may produce actual disease of the brain, which, if not soon fatal, may, in after years, result in imbecility and insanity.*

In other instances, there can be no doubt but that, by injudicious treatment, which is too harsh, severe, and unfeeling, very much is often done during the first years of life to sour the disposition, to *diminish self-respect* and kind feeling, and to develop those passions which, in after years, lead to the commission of the worst of crimes.

Infants *should, therefore, on no account be subjected to the least degree of harshness*, either in voice or manner, on the part of their attendants.

Harsh, unkind, or neglectful treatment tends powerfully to excite feelings of grief and fear, ill will, hatred, envy, malice, revenge, and all those feelings or emotions which are termed the depressing passions.

By the frequent and strong excitement of the feelings just named, the pitiable object of parental severity or neglect may receive a bias in early childhood which shall lead him to become a desperado in wickedness.

* Sometimes, when children past the age of infancy are a little unwell or fatigued, their sensitiveness is thereby so greatly increased and so excessive that the least word of disapprobation will be magnified in their minds into severe and unmerited censure, and grieve them exceedingly. The greatest care should be taken to soothe and dissipate those feelings of grief as speedily as possible.

or a miserable son of discontent, inefficiency, and timidity, ending in poverty and disgrace, or an early death. Or, if they do not actually produce these sad results, they will inevitably have a tendency in that direction.

On the contrary, the most perfect mildness, gentleness, and KINDNESS, as well as firmness, should *always* be manifested in the treatment of *infants.* This is necessary, in order not only to prevent their becoming obstinate, peevish, and fretful, but also to promote and cherish those genial affections which, growing with their growth, and strengthening with their strength, should shed over every scene of their future lives their happy influences.

It is of the highest importance that they should invariably be addressed in soft and affectionate tones, and be surrounded by happy and smiling countenances. Even when a degree of fretfulness is occasioned by some accidental irritation of the system, the smiling countenance of the mother or nurse, and some cheerful nursery song, will do *much*—very much, to alleviate their sufferings, and render them quiet and happy.

Care, it is true, must be taken not to confound gentleness and tenderness with an improper indulgence of the whims and caprices of the infant. These should always be met with mildness, calmness, and *firmness.*

For the *securing of* OBEDIENCE corporal punishment *may* be necessary; but when it is administered, it must be done with the utmost kindness and affection, as well as firmness. "Chasten thy son while there is hope, and let not thy soul spare for his crying."

If circumstances are unfavorable to your giving all due attention to the matter, it may sometimes be very well to avoid coming in collision with his *will* for the time being. But if his will is set in opposition to yours, it is hardly possible to conceive of a more important duty, demanding your speedy attention, than that of securing a subjection of it to your commands; but let it be done with calmness, and dispassionately.

If your own passions are excited, he will perceive it in your voice, in your manner, and *certainly in your eye;* and when he sees it, he will be doubly fortified against yielding obedience to your commands. The excitement of his mind, caused by your efforts for the overcoming of his will, may be so great as to make him sick for a time, but probably not if the course pursued is judicious.

It has been remarked, and with truth, I think, that if a child is not early brought to yield implicit obedience to the commands of his parents, he will, for that reason, in after years be very much less likely to yield obedience to the requirements of his Creator, or to the laws of his country.

Unreflecting and inexperienced parents, whether they are young or old, often complain of the *willful disobedience* and *obstinacy* of their children who have passed the age of early infancy, and harshly accuse them of intentional misdemeanors or carelessness, when there is no proper grounds for so doing.

Inadvertency, *forgetfulness*, *unsteadiness*, wandering thoughts, and such like qualities, are the natural accompaniments (not to use the improper term faults) of childhood, and therefore, when errors are not ascertained CERTAINLY to be willful, are to be mentioned kindly, and to be gained upon by time. Harsh treatment and unjust accusations will not only do no good, but much harm.

"Fathers, provoke not your children to anger, *lest they be discouraged.*" These are words of inspiration and of infinite wisdom, and should command the careful consideration of every parent; of every mother, as well as of every father.

Observe, the thing to be especially guarded against is the excitement of a health-destroying passion, here called anger, and the consequent DIS-*couragement* of the child.

Often, when a child has committed a fault, a simple expression of regret for the past, and a few cheerful words of EN-*couragement* and hope for better things in the future, will operate far better than any other means that can possibly be devised.

Well-meaning but naturally heedless children often become *dis-couraged* in their efforts to please. This discouragement operates most disastrously upon the child in every respect. The greatest care should be taken to cultivate *courage* and a *proper self-respect;* without these no person can be very useful, efficient, or happy.

"Be careful," says Locke, "before punishing a child for obstinacy (or accusing him of it), that his fault really arises from willfulness, and not from childishness and inability to do what you command him. If commanded to stay within doors and *study*, while the sound of his playmates' voices, joined to the innate impulses of his own nature, combine to call his attention away from his books, he *may not be able to obey.*"

Children, if properly managed, are for the most part far more docile than is usually supposed by parents or others.

If, unfortunately, they have been suffered to contract habits of obstinacy, such habits may, in very many instances at least, be best counteracted and overcome by kindness, good nature, and patience, accompanied always with firmness on the part of parents and nurses; whereas, scolding and harsh treatment are very liable, and indeed almost certain, to confirm and strengthen those very habits which such ill-advised measures are designed to correct.

Always remember that a child *is* a *child*, and require and expect nothing of it except what a child is

able and may reasonably be expected to render. Do not look for the judgment, self-control, and sense of propriety, which are the result of mature age and experience.

At a very early age, children readily and correctly distinguish between what is reasonable and just, or unreasonable and unjust, in our treatment of them. They should, therefore, always be treated as rational beings, and be made, by our mildness, calmness, and *manifest affection* for them, to understand and to feel that our corrections and chastisements are not the result of our whims or caprices, but are designed for their best good, and that it gives us heartfelt pain to be obliged to resort to such measures in order to render them obedient, good, and happy.

Children who are thus treated, I believe, invariably love their parents the better for all the wholesome chastisements they receive.

I am aware that there are those who object to corporal punishment, as not suited to the necessities of a rational being, and would have us believe that they injure the disposition; but with such sentiments I have no fellowship.

"Foolishness is bound up in the heart of a child, but the rod of correction shall drive it far from him," are words of inspiration, as well as of wisdom and sound sense, and, I may add, agreeable to the experience of all judicious parents who have had occasion to know

intimately what is ordinarily contained in the hearts of the young, and have made a careful and judicious use of this instrument.

Parents can not be too careful nor too diligent in studying the various dispositions, and, indeed, all the mental as well as physical characteristics of their children. Scarcely two children can be found who require precisely the same treatment in all cases. Each child's peculiarities must be studied, and the treatment in each case must be such as, according to a deliberate and sound judgment, is best adapted to each.

THE HABITS.

A habit of obedience should be secured as early as possible; it can usually be done long before the end of the second year. Habits of kindness, of order, and neatness should receive early and persevering attention. Habits of activity and regularity should be cultivated with care. For the establishment of habits, of truth, veracity, and honesty, the greatest care should be taken. The conscience should receive constant culture. For the establishment of all these excellent qualities, the child must be led on by example, by kind words and affectionate manners.

For securing habits of *truth*, *honesty*, and *veracity*, the greatest caution is necessary, and often long and

persevering effort. Great injury is often done to children by their parents in their ill-directed efforts for their good in this respect.

The child does something that he may or may not have some apprehension is wrong; the parent, not knowing whether he is guilty or not, thoughtlessly violates all propriety by addressing the child in such words, or in such a tone of voice, as convinces the child that he is suspected of having been a "naughty boy."

He may fear a whipping, or it may be only the disapprobation of his parent, if he confesses the truth; if he conceals it, he knows of no means by which his parent can detect the untruth. His conscience is yet weak, and he runs the risk of telling an untruth in order to secure his loving heart, or perhaps his ears or his back, from the exhibitions of his parents', perhaps, passionate displeasure. The telling of a lie seems to be his only mode of defense.

He sees himself to be in the hands of an irresponsible power, and that power is in more or less of a passion. I do not mean to say that the young child's mind goes through with all this course of thought, but he intuitively sees the whole in the twinkling of an eye.

Such a course of conduct, often repeated, no doubt, makes confirmed liars of many who would have formed habits of truth under more favorable circumstances.

It is, oftentimes at least, far better that the child should go unpunished if we have no other evidence of

his guilt than that he should be asked a question which, if answered truly, will criminate himself. We should carefully avoid tempting a child to tell a falsehood through fear of incurring a punishment, or our displeasure even, if he tells us the truth.

It is important that habits of *industry* should be early cultivated. For this purpose, children at a very early age may with advantage be required to perform some kind of useful labor for a certain length of time each day.

It is always gratifying to them to feel that they are not only able to assist their mothers or other persons older than themselves, but have actually rendered them assistance. It encourages them to hope to do more in after life; it gives them *courage*, and is calculated to render them *energetic* and *efficient*.

Care, it is true, must be taken not to require too much of them. If this is done, it will have an opposite effect. That old adage, "All work, and no play, makes Jack a *dull* boy; but all play, and no work, makes him a *mere toy*," will doubtless always remain a truth worthy of the regard of all parents.

CHAPTER XX.

INTELLECTUAL CULTURE.

The perceptive are the first of the intellectual faculties that become active, and they are often exercised at a very early period. Infants in the nursery are usually active, if not accurate observers.

By taking advantage of this observing and inquisitive disposition, to direct their attention to natural and familiar objects and phenomena, accompanied with some simple explanations, a vast amount of useful knowledge may be communicated at an early age, without tasking their minds by such an application to study as would prove prejudicial.

Let them erect and destroy houses made of blocks, and thus learn the laws of gravitation; let them trundle the hoop and fly the kite, and thus learn the laws of dynamics; let them construct little vehicles, and manage them in their own way, and thus acquire mechanical tact and ingenuity.

In this manner the powers of the intellect become gradually developed, and the child becomes capable of comparing and assorting his ideas—of referring effects to causes, and distinguishing truth from error; and by rendering him familiar with the order, beauty, and har-

mony of nature, and the wisdom and beneficence exhibited in all her operations, his moral faculties equally with his intellectual are cultivated and improved.

This kind of mental culture is effected without undue confinement, or in any degree interfering with the proper exercise of the body; but, on the contrary, allures him forth into the open air, amid the garden's cultured walks—o'er grassy fields—along the river's brink—amid the silence of the forest shade—upon the hillside, or by "old ocean's shore," where every object solicits attention, and, while it amuses, excites the mind to reflection, and better prepares it for future intellectual attainments.

It is to be regretted that so small a portion of the education of youth is devoted to the acquisition of knowledge from personal observation. The perceptive faculties are in a great measure neglected, and the teachings of books made to take the place of the more accurate, vivid, and permanent impressions derived directly from natural objects themselves. The free independence and originality of thought is made most unjustly and injuriously to bow to the often fallible shrine of authority.

Let it, then, be your ambition to have your children possess *good health*, *good habits*, a proper degree of *self-respect* and *self-reliance*, the best of *dispositions*, and *quickness* of all the perceptive faculties. If they have these at the age of seven or eight years, all is

well, even if they know not a single letter of the alphabet.

Devoting the mind in early years to close and intense study is pronounced by the celebrated German writer, Sturve, to be "a positive crime against nature." This is particularly the case with the study of those subjects which interest the feelings and excite the imagination.

Neither the intellectual nor the moral powers can be developed prematurely only at the expense of the health of the body, and too often, also, of that cheerfulness of disposition, and that happy buoyancy of temper which, when extinguished by any cause in youth, is but rarely regained in after life.

Even the mind itself, owing to its dependence, during the present life, upon the condition of that material organ, the brain, when taxed beyond its powers by too early and ill-directed efforts to educate and develop it, is deprived of much of that capacity for depth and vigor of reflection to which it might have attained under a more rational system of training.

The effect of mental cultivation upon the health, the importance of physical education in early life, and the best method of perfecting both the mind and body, have for a long time been subjects of much inquiry, and engaged the attention of the most learned men. In Germany, some of the most distinguished medical men have devoted great attention to this subject, and perhaps there can be no better authority upon it than

that of the distinguished Hufeland, physician to the King of Prussia, who, by his learning and acquaintance with the greatest scholars of the age, is eminently qualified to speak with decision. In his valuable work on the *Art of Prolonging Life*, he observes, "Intellectual effort in the first years of life is very injurious. All labor of the mind which is required of children before their seventh year is in opposition to the laws of nature, and will prove injurious to the organization, and prevent its proper development." Again he says, "It is necessary that we should not begin to exercise the faculties of the mind too early. It is a great mistake to suppose that we can not commence their cultivation too soon; we ought not to think of attempting this while nature is wholly occupied with the development of organs, and has need of all the vigor of the system to effect this object. If children are made to study before this age, the most noble part of the vital force is withdrawn from perfecting the organization, and is consumed by the act of thought; from which it necessarily results that the bodily development is arrested or disturbed, digestion is deranged, the humors deteriorated, and scrofula produced. In fine, the nervous system acquires a predominance over all others, which it preserves for the remainder of life, producing innumerable nervous complaints, melancholy, hypochondria, &c. It is true, however, that diversity of character requires different methods in this respect.

But in all cases the course to be pursued is directly opposed to that which is usually adopted.

"If a child shows at an early age a great propensity to study, instead of animating and encouraging him to proceed in this course, as most teachers do, it is necessary to moderate his zeal; for *precocity of mind is nearly always a disease*, or shows an unnatural propensity which it is most prudent to correct.

"A child of more dull intellect, whose *thoughts are slow*, may, on the contrary, apply to study at an earlier period of life; for in him this exercise is necessary for the proper development of the mental faculties."

M. Ratier, in an essay on the physical education of children, thus speaks of early mental instruction: "The labor of the mind, to which some parents subject their children not only too soon, but in a wrong direction, is often the cause of their bad health, and causes nearly all those who are distinguished by precocity of the intellectual faculties to perish prematurely; so that we seldom see a *perfect man*—that is, one who exhibits an equilibrium of the physical, mental, and moral faculties."

Sturve says, "We should operate upon the tender intellect of a child by the gentlest progression. It must surely be more judicious to complete the instrument previous to its use, than to employ it in an imperfect state."

The celebrated Tissot, a learned and practical physi-

cian, the friend and intimate companion of Zimmerman and Haller, published a work on the *health of men of letters*. In this work, which, from its first publication, has continued till the present time to have great influence in Europe, he says, "The effects of study vary much according to the age of the student. Long continued application in infancy destroys life. I have seen young children of great mental activity who manifested a passion for learning far above their age, and I foresaw with grief the fate that awaited them. They commenced their career as prodigies, and finished by becoming idiots, or persons of very weak minds. The age of infancy is consecrated by nature to those exercises which fortify and strengthen the body, and not to study, which enfeebles it, and prevents its proper increase and development."

After referring to instances observed by himself and others, of disease and death caused by great mental application in youth, he adds, "I have elsewhere mentioned the injury that peasants do their children by requiring of them more bodily labor than they ought to perform.

"But those injudicious parents who require from their children too much labor of the intellect, inflict upon them an injury far greater.

"No custom is more improper and cruel than that of some parents who exact of their children much intellectual labor, and great progress in study. It is

the tomb of their talents and of their health." He concludes with this advice: "The employments for which your children are destined in after life should regulate their studies in youth; not requiring (as is the custom with many parents) the most study in early life of those who are to be devoted to literary pursuits, but, on the contrary, the least." "Of ten infants," says he, "destined for different vocations, I should prefer the one who is to study through life should be the least learned at the age of twelve."

Dr. R. Macnish, of Scotland, says: "Violent action of the brain destroys life far more frequently than is generally imagined.

"Many fine youths perish in consequence of excessive cerebral action during the competition for college prizes. The brain either becomes actually diseased and thus directly destroys life; or its morbid state of excitement induces disease elsewhere, and death is the speedy result. I lately attended a young lady who labored under a most dangerous attack of typhus fever which she caught in consequence of over-working the brain in her efforts to carry off a prize."

Dr. Samuel Jackson, a very distinguished American writer, says:

"In an early age, before the organism has acquired its proper development, the brain its perfect consolidation, or the organs are confirmed in the order of their existence, premature exercises of the intellectual facul-

ties are the source of many disorders. By the undue excitement of the brain, its organic functions are augmented unnaturally, the organic actions of the organs of nutrition, secretion, &c., are enfeebled; the muscular system is stunted and debilitated; the nervous system becomes morbidly irritable, and the brain subject to a variety of affections.

"Those highly gifted with precocious intellects possess miserable health, and are generally short-lived; they are cut off by chronic inflammations and disorganization of their viscera, or by acute inflammation of the brain."

The inutility of early cultivating the mind, and its evil results, have also been noticed by observing men not belonging to the medical profession. Cobbett, in his work abounding with most excellent remarks upon the *rearing* and education of children, observes:

"The mind, as well as the body requires, time to come to its strength; and the way to have it possess at least its natural strength, is not to attempt to load it too soon, and to favor it in its progress by giving to the body good and plentiful food, sweet air, and abundant exercise, accompanied with as little *discontent* or *uneasiness* as *possible. It is the first duty of a parent to secure to his children, if possible, sound and strong bodies.*"

It would be easy to quote from numerous other writers of eminence similar remarks to the above, but it is

unnecessary to do so. All agree that the mind should not, in early life, be too much excited either by *feeling* or *study*. This is an important truth. The principle advocated is undoubtedly correct. Young children are often injured by over-intellectual effort; they are also injured by over-excitement of the feelings, especially by those of a *depressing* character.

So far, however, as the above-quoted remarks refer to the matter of study, they must be regarded as far more applicable to the case of those children who, being brought up in cities, are necessarily deprived of a sufficient amount of active exercise out of doors, than to that of children in the open country.

However it may be with the children in Europe in regard to acquiring knowledge from books before they are from seven to twelve years of age, it is quite certain that children in this country—in this Yankee land—who are brought up in agricultural districts and smaller villages, often have such an exuberance of animal spirits, that, if allowed to play by themselves through the whole day, they become so much fatigued by their constant activity as to be thus greatly injured both in body and in mind. It is much better for them to be kept in school several hours each day, for from three to six months in the year. It has been observed by many parents, that their children, at the early age of four or five years, enjoy better health when sent to a *suitable* school than when left to their own amuse-

ments out of doors, especially during the long and hot days of summer.

At this early age, however, they must not be required or permitted to study more than a few minutes at a time. Their exercises in school should be various; singing, marching, walking, and a variety of other exercises should occupy a very considerable portion of the time; but with these exercises they may be taught to read and to spell. They may also receive instruction in drawing and painting, in natural history, and a variety of other studies, such as their minds are able to comprehend. The exercises of the school-room should be conducted in such a way as to be agreeable to them; it should be a well-regulated play-room, in which their studies shall constitute their *work*. The greatest care should be taken to bring into exercise, and thus to cultivate, all the desirable *social feelings*, and every effort should be made to render every one happy, and to form in each one the desire and the habit of using every proper effort to render each of the others happy. No efforts should be spared to excite *activity* of mind, to excite *quickness* of thought, *animation*, *hope*, *courage*, and *zeal;* and also a feeling of *self-respect;* also, to form *habits of order*, of *decorum*, *kindness*, *politeness*, *punctuality*, and *industry;* in short, the principle efforts of the teacher should be directed to the cultivation of the *emotions*, the *feeling*, the *disposition*, and the *habits*. But, in order to do this most effectually,

the children must have something to *do*, and there is nothing better for them than at first to attend to the studies already named. As they become older, they may attend to other and more severe studies; and perhaps there is no study better fitted for the young mind than that of the Latin language. The mind can understand this at a very early age, and it is well adapted to quicken thought and to cultivate the memory. Natural history, too, is understood at a much earlier age than geography. The mind of a young child can easily "take in" the idea of a cat, or dog, or cow, or horse, and can be made to understand the characteristics and habits of these and of other animals; but it is not till subsequent years that the mind is able to comprehend the idea of distance—of space, sufficiently to be able to study geography with interest or profit.

By attending schools conducted judiciously, children may, without injury, acquire a very considerable amount of knowledge from books, and by means of oral instruction, at an early age. Still, the greatest care should be taken that they do not have too much exercise of the mind by study or by reading, not only till after the age of twelve, but until the physical system has attained its growth.

CHAPTER XXI.

DISEASES OF PREGNANCY.

I HAVE mentioned that I should make some remarks upon diseases at a future time.

Nothing would be more gratifying to my feelings than to be able to give you such instruction as would enable you to dispense entirely with the services of physicians; but of doing this there is no hope.

It is utterly impossible for me, or for any other person, to describe the various symptoms of all the different diseases to which you and your children may be subject, so distinctly and definitely that you will be able to recognize each disease when you see it.

You must have at times felt the extreme difficulty, not to say impossibility, there is in so describing one person to another as to enable the one to recognize the other when met with. And this affords a very good illustration of the difficulty there is in the way of my describing diseases in such a way as to enable you to recognize each one with sufficient readiness, and certainly to enable you to treat it with suitable promptness and efficiency.

A few moments' reflection upon this matter will, I

think, fully convince you that it will be unwise for me to attempt (in the short space at command) to make a doctor of you, however much I might desire it.

Medicines of all kinds, vegetable as well as mineral, have very justly been denominated edged tools, which should never be used ignorantly. They should never be given blindly, and without a clear and satisfactory knowledge of their properties, and of the effect they may be expected to have upon the patient.

In most cases of sickness, it is far better for the patient to keep quiet in a warm room, and refrain from food almost, or quite entirely for some days, and also from drinks, excepting a moderate supply of water, or some very simple beverage of a temperature most agreeable to his desires, and thus allow time and opportunity for the recuperative powers of nature to restore the system to health, than blindly to resort to the use of medicines that may thwart those healing efforts.

There are, however, a few of the ills and discomforts to which women are liable that can be very distinctly pointed out; and there are, also, some of the diseases to which infants are liable that can be clearly described.

For these diseases, of both mother and child, I can prescribe such, and only such remedies as are most frequently effectual in removing them, in addition to some remarks upon the domestic management usually proper in each.

I shall pursue the same arrangement here as I have

done in the former part of this work, and first speak of the diseases of the mother, and afterward of those of the child.

In almost all cases of pregnancy, the general system is stimulated into increased activity. This is particularly manifested in the nervous system, and also in the *nutriment-making* and *nutriment-distributing systems.*

Hence the mind is more easily excited and troubled by causes of a very trifling nature, or there is sadness and melancholy, or an irritability and want of ability to sleep, more or less constantly afflicting some women.

Others suffer more from headache, and a general feeling of plethora, or fullness of blood, from palpitation of the heart, cramps, swelling of the feet and limbs; while in many the above symptoms are prevented by the occurrence of others, such as diarrhea, or nausea and vomiting, which are brought on by the efforts of nature to relieve the system from harm and suffering from this over-stimulation. And others are so fortunate as to enjoy better health than at other times.

From this review of the causes of most of those ills, termed diseases of pregnancy, it is obvious to remark once for all, that women of strictly temperate, as well as active habits, are very much less liable to suffer

from them than those of opposite habits, in regard to diet and exercise, for the reason that the one expends in muscular action the moderate amount of unstimulating nutriment she takes into her system, and thus prevents disease.

The other, while she takes a larger amount and a more stimulating quality of food, fails to throw upon the muscles the burden of freeing the general system from the load thus heaped upon it.

The result is, that the vital energies—the protecting and healing powers of nature—the *vis medicatrix naturæ* of the ancients—in the effort to protect the womb and its contents from harm, throws the diseased action upon some other organ, thus inducing some one or more of the diseases peculiar to the state of pregnancy.

The special importance of this strict attention to the diet and regimen can not be too deeply impressed upon the mind; for upon the proper regulation of the habits and practices in these respects will depend in a great measure the comfort and happiness of the majority of women.

I do not wish to be understood to say, however, that the strictest temperance will be sufficient, in all cases, to secure them from disease; for this would be far from the truth. There are many times disturbances in the system that absolutely require medical treatment for their removal or relief, and, happily, many of these disturbances are indicated by such peculiar symp-

toms that they can be easily and unmistakably described, and the appropriate remedies pointed out.

In regard to those of this character which are of most frequent occurrence, and, consequently, of much importance, I will now give you such information as I may be able.

MORNING SICKNESS, NAUSEA, AND VOMITING.

I have already spoken of nausea and vomiting as a sign of pregnancy.

In mild cases there is no occasion to resort to medicines for its relief. Its effects are simply those of a safety-valve to the system. The nausea has a strong tendency to prevent febrile action, to reduce the rapidity of the pulse, and calm the irritability of the nervous system; while the vomiting prevents the digestion of too much food and too much nutriment from being carried into the general circulation, there to cause some more severe disturbance. It is a process which nature sets in operation simply to prevent greater evils.

Hence the truth of the common remark, that those women are less subject to abortion or other serious troubles, and ultimately do better, who have more or less vomiting or nausea, or both, than those who are exempt from them.

When not severe, these symptoms may frequently be entirely and speedily removed by taking rather a light dinner, a *very* light supper, and entirely dispensing with

breakfast until a rather late hour, and then taking simply a small piece of dry toasted bread, just enough to stay the appetite till dinner-time. In most cases, water should be the only drink.

The following case, related by the celebrated Dr. Dewees, illustrates so clearly and forcibly the facts and principles above stated, that I can not refrain from laying it before you.

The case is one of a patient of his, who being somewhat accustomed to abortions, could easily tell, soon after the stopping of her menses, whether she would be likely to carry her child to full time or not by the state of her stomach. If she had no morning sickness, vomiting, loss of appetite, nor disgust at the sight of food, she was sure to abort.

After a little experience, she acquired sufficient knowledge of herself to prevent this accident; and whenever she faithfully acted up to the dictates of her reason, she was sure to carry her child safely.

If, after the interruption of her menses, she did not become affected with the common consequences of impregnation, she instantly *reduced* the ordinary quantity and quality of her food; drank nothing but water; kept her bowels in a loose state; and sometimes, but not always, lost a little blood (but this never without the advice of her physician); used very little exercise, lest she should produce fatigue. By these and similar measures, she so managed her regimen as to very much

reduce, if she did not entirely prevent, any degree of that state of the system I have described, and which physicians know by the term plethora.

But at other times, when she became pregnant and had the nausea and vomiting, and other ordinarily accompanying symptoms, she took no extraordinary trouble to regulate the condition of her system, as she found them always sufficient to effectually subdue this tendency to plethora. But if she began to feel headache or other marks of fullness, she lost a little blood, or, more commonly, *ate less.*

In some instances, where the observance of the above suggestions in regard to diet does not prove to be sufficient, relief may be obtained by taking a very light breakfast while in bed, and not rising to dress until one or two hours after having eaten it; or by drinking a tumbler full of warm chamomile tea, or even a cup of warm water immediately after nausea is felt. This, by inducing immediate and full vomiting, tranquilizes the disturbed stomach, and thus abridges the morning sickness. It is sometimes best to take the chamomile tea before rising from the bed in the morning. This simple remedy has sometimes been successful where apparently more powerful ones have failed.

A plaster of Burgundy pitch, sprinkled over with opium, and worn upon the pit of the stomach, sometimes proves a very effectual and not an unpleasant remedy.

Where the vomiting is accompanied by *acidity of the stomach*, a little soda, or a tea-spoonful of finely pulverized charcoal in a little lime water and milk, is often very serviceable, as is also the following mixture: viz., carbonate of potassa, one drachm; laudanum, forty drops; and spearmint water, six ounces: mixed. Of this mixture a table-spoonful may be taken every four or six hours.

In other instances, these alkaline remedies seem to do no good. Whenever this is the case, we may confidently expect great relief from the use of lemon-juice. This may be taken either clear, or diluted with water simply, or in the form of lemonade, as each one finds most agreeable and beneficial.

A tea-spoonful of fine wheaten flour suspended in a tumbler of cold water has in some instances operated very favorably.

In some severe and protracted cases, where the patient has become reduced and weak from the effects of this constant vomiting for many successive weeks, good Champagne, taken freely, has put an entire stop to it.

But where there is a febrile state of the system, with a coated tongue, and *vomiting of bile*, the above remedies will seldom be of much benefit. In these cases the bowels are usually in a costive condition, and this state of the bowels must be removed before any lasting

relief can be expected. For this purpose, the treatment may ordinarily commence with one or two doses of infusion of senna, with Epsom-salts. This mild cathartic may be followed up by the measures recommended under the head of costiveness, combined with the above recommended remedies for the vomiting.

Should the above-named measures fail to afford relief, as they sometimes may, it will be advisable to apply to your medical adviser for aid.

Should this nausea and vomiting be absent before the period of quickening, and subsequently come on, you should not delay applying for medical aid; if you do not, you may be in great danger of a premature confinement. In these cases judicious medical treatment is decidedly necessary. The patient must keep strictly to her sofa. Her bowels must be gently operated upon, and kept in a loose state, and M'Munn's elixir, or some other preparation of opium, administered at night; and such other measures adopted as the peculiar circumstances of each case may demand.

SALIVATION.

No woman should be surprised if, sooner or later after the commencement of pregnancy, the quantity of fluid secreted by the salivary glands of her mouth should be more or less increased. It is usually simply an observable phenomena, not demanding any treatment whatever. In other instances it has become

troublesome, and even so profuse as to amount to one, two, and even three or four pints a day. It is usually accompanied with more or less acidity of stomach. In these cases, twenty or thirty grains of the carbonate of magnesia may be taken in the morning, and the mouth rinsed frequently during the day with lime-water, sufficiently diluted with soft water.

One lady, says Dr. Meigs, spit at least a quart a day from the beginning to the end of the gestation. It ceased the day after the child was born. She derived more comfort from keeping a few grains of burned coffee in her mouth than from any other remedy. In cases where the *strength* is reduced very much by this cause, immediate application should be made to your family physician. This, however, I am happy to say, is seldom the case, as the appetite is uniformly, so far as I know, very good, and the digestion is performed so perfectly, that, notwithstanding the great amount discharged from the mouth, the flesh and strength are both very perfectly sustained. Where it is so, it would be folly to go to teasing and irritating the stomach with severe medicines.

COUGH AND DIFFICULTY OF BREATHING.

During the last part of pregnancy, women sometimes suffer severely from an oppression of breath, accompanied with severe "fits" of coughing.

This trouble is usually owing to some derangement

of the digestive system. A mild emetic will often remove it entirely.

Sometimes a mild laxative will accomplish this object, and sometimes a suitable amount of abstinence from food for a few days will put a stop to it.

If these mild measures fail, medical aid should be sought, especially if the cough is severe and in paroxysms, otherwise serious evils may be produced.

DIARRHEA.

This is a disease sometimes induced by the pregnant state. Its simplest form is one in which the motions are more loose and frequent than in health, but not otherwise much altered in their appearance. The tongue is clean, or only very slightly coated, the appetite pretty good, and there is but very slight, if any, febrile action in the system. No medicine is here called for; a diet of scalded milk, or of dry toasted bread or other light food, in small quantity, with very little drink of any kind, will in most cases be quite sufficient.

A more serious form of the disease is sometimes met with, where the stools are liquid, dark-colored, and very offensive; the tongue is coated; the breath is offensive; there is little appetite, and a bad taste in the mouth. In these cases, the diet should be restricted to very small quantities of the very mildest kinds of food, such as barley-water, arrow-root, made thin with water, rice gruel, with perhaps a little dry toasted bread,

and similar articles Mild cathartics must also be resorted to. The following draught, taken every three or four hours, until it operates upon the bowels, will be found very useful. ℞ Rhubarb, eight grains; ipecacuanha, one grain; dill water, one ounce. If there is thirst, cream of tartar water, made by mixing loaf-sugar, cream of tartar, and water together, in such proportions as to make a pleasant drink, may be taken freely. Another cathartic, which I prefer, in many instances, to that of the rhubarb above named, especially where there is much fever and heat, is, pulv. jalap, six grains; cream of tartar, twelve grains. This quantity may be taken in half a tumbler of sweetened water early each or every other morning. If this operates severely, take eight or ten grains of Dover's powder every night. As the disease begins to abate and the tongue to become clean, less medicine will be required, and more food may be allowed.

In addition to the above, I would have a flannel garment, or at least a band of flannel, worn so as to thoroughly cover the bowels.

If the disease has been of long standing, sometimes a dry diet of toasted bread or cracker is the best that can be used.

It should be borne in mind that this diarrhea, like the vomiting, is usually an effort of nature to reduce or to prevent a plethoric state of the system, which might, if unchecked, produce abortion or some lesser evil.

Costiveness is very apt to attend upon all periods of pregnancy. It is sometimes avoided or removed with much difficulty, but it should be overcome by means of diet, if possible.

The use of fine flour should be entirely dispensed with in bad cases, and the unbolted wheat meal or Graham flour used in its stead. The cracked wheat, cooked in various ways, is also an appropriate and excellent article of food. All kinds of cake and pastry should be rejected. The laxative fruits, such as figs and dates, or plainly-cooked apples, either in their dried or undried state, should be substituted for butter. One or two table-spoonfuls of coarse wheat bran may be suspended in a tumbler of milk or of water, and drank on first rising from bed each morning. Cold water may be freely used for drink at all times. If coffee is taken, it may be sweetened with manna. In severe cases, where all these means prove ineffectual, and a resort to medicine is indispensable, the confection of senna will be a good article. But pills, called by some peristaltic persuaders, will, in most cases, be found more efficacious.*

* These may be made by the following recipe:

℞ Rhei pulv., ʒij.
Ipecac. pulv., ℈ss.
Ol. Caraway, qtts. x.
Syrup simp., q. s.
Mix. Make pills, 40.

One of these may be taken half an hour before dinner, and two or three at bedtime, every night for some time. At first, perhaps, for two or three days, they may not seem to have any effect, but they will soon prove themselves very efficient helpers. After a little time, it will be found that a less number each day will be sufficient to secure one or two motions. The number may be reduced as fast as the experience of the individual in each case may indicate. These pills never have a tendency to produce costiveness, nor require the dose to be increased after having been taken for a while, as is the case with many medicines; but the opposite effects are always produced by them.

Dr. Meigs says, "Let her infuse half an ounce of senna in a pint of boiling water for two hours; let her strain this liquor over a pound of prunes in a saucepan, adding to the mixture a handful of loaf-sugar; let the prunes stew until they become well cooked, soft, and pulpy, after which they may be poured into a bowl or jar for use. Now a prune cooked in this way tastes as pleasantly as if it had been cooked in spring water. It will amuse her to eat six or eight of them per diem; they will keep her bowels open without griping or purging."

PILES.

Pregnant women are very often subject to piles. Of all the causes which operate in their production, habit-

ual constipation of the bowels is the most frequent. If this is avoided by the means already pointed out, there will not often be any suffering from them; but if it is permitted to exist, the woman may, during the whole remainder of her life, be more or less annoyed by them, and may suffer far more than the inexperienced can easily imagine; for they are often exceedingly painful and troublesome, and daily so. Hence the importance of keeping the bowels in their proper condition at all times, and especially during pregnancy. It is in this way, and in this way only, that the beginnings of the evil may be prevented. Occasionally, however, they first make their appearance when the bowels are in a relaxed state, and the patient suffering from a diarrhea Both conditions of the bowels must be carefully avoided, and by this means the piles prevented.

If they are once permitted to become troublesome, their cure is frequently attended with very considerable difficulty. Still, in most cases, they may be removed by appropriate treatment; but the treatment required in different cases is so various, that it would be impossible here to give such directions as would be of any real value.

PRURITUS, OR ITCHING.

A great many women, when pregnant, are most sadly annoyed with a severely distressing pruritus or itching.

Some of the cases are to the last degree distressing; the itching being almost constantly severe, and attended with exacerbations, in which it is so absolutely intolerable that the sufferers can not resist the provocation to scratch, even to the extent of seriously wounding the surface.

Sometimes this disease is attended with a white, aphthous irruption; in other cases it is accompanied by a burning heat, with dryness, redness, and perhaps swelling of the parts affected; but in some few cases there appears to be little or no change from a healthy condition.

Severe as this affection often is, I am happy in being able to inform you of a very simple remedy, which will very speedily cure it in almost every case.

It is washing the affected parts several times a day with a strong solution of borax (biborate of soda), made by dissolving an ounce or more in a pint of soft water. This wash may possibly be made more efficacious by using distilled rose-water, and by adding one grain of the sulphate of morphia to each ounce of the solution.

A female syringe should be used for applying the wash, if the disease extends too far within the body to be reached without one. It may be used tepid or cool, but not cold.

Very few cases will fail to yield almost immediately to this simple application. If the parts are swollen, or the surface hot and dry, the bowels should be freely

moved by a full dose of Epsom-salts, and the diet should be very low for some days. In the more severe cases, where there is much fever, it may be necessary to lose blood from the arm.

The disease sometimes, but very rarely, occurs in women who are not *enceinte*.

HEARTBURN.

Perhaps there is no more frequent trouble during pregnancy than that which is experienced from heartburn or acidity of stomach. This is often very distressing, and frequently commences immediately after impregnation.

The course of living I have above described, if followed, will greatly relieve, if not entirely prevent it; but if not adopted till after the occurrence of the complaint, it will, in very many instances, prove to be entirely inefficacious, and a resort to other means will become indispensable.

The remedies which have been used with favorable results are very numerous. The eating of small quantities of the carbonate of magnesia is often particularly serviceable, where there is a costive state of the bowels accompanying the acidity.

Lime-water, in small quantities, is often very useful, where the bowels are too much relaxed.

Charcoal, finely pulverized, is another remedy of great utility, and so is the drinking of a little fine flour

suspended in water, say a table-spoonful to half a tumbler of cool or cold water.

In other cases, I have known lemon-juice, taken in small quantities, either separately or diluted with more or less water, to be entirely effectual after all other remedies had failed. To take it in this way is usually, but not always, better than to take it in the form of lemonade. Pleasant sour or sub-acid apples and other fruits are often very effectual in this complaint.

These acid remedies are more likely to prove beneficial in those districts of country where the water is more or less impregnated from limestone rocks, and thus rendered such as is known by the term "hard" water, than where it is found perfectly soft, and free from any such additions.

I hardly need add that the course of diet and exercise above pointed out, when speaking of costiveness, should be strictly observed. Heartburn and costiveness are very apt to accompany each other.

TOOTHACHE.

This is among the common troubles of pregnancy. Its immediate cause is most commonly one or more decayed teeth; and when it is, the offending teeth should be at once extracted, if they are too far decayed to be preserved by plugging; if not, the cavities should be carefully cleaned and filled by a skillful dentist.

There is an impression somewhat prevalent that the

extracting of teeth is liable to induce a miscarriage, and it is but just to say that some eminent physicians have this impression. But I am fully satisfied that there is little, if any, foundation for it. Excepting in cases where the patient is in *very* feeble health, and her nervous system *extremely* excitable, I have no more hesitation about extracting them during pregnancy than at any other time. I believe that in nearly every instance where a miscarriage has followed their extraction, it would have occurred from other causes if the tooth or teeth had not been removed. I have no doubt but that more abortions take place from the irritation caused by decayed teeth, which are allowed to remain for fear of the results of their extraction, than occur from their removal. This is the result of my observation; and in conversation a few days since with a dentist, who has had an extensive practice for more than fifteen years in one of our cities, he informed me that he was of the same opinion. He has every year extracted a large number of teeth under these circumstances, and, so far as he has learned, the operation has in no case resulted unfavorably.

The pain, however, is often situated in a perfectly sound tooth, and not in the diseased one; so that great caution should be used against being misled by this sympathetic action to the removal of the wrong tooth. By a gentle rap with some small metallic instrument upon each suspected tooth, the one which *causes* the

pain will be found much more sensitive than the others although it may never have been the seat of the least pain before. I have very often removed the toothache by the extraction of a different tooth from the one pointed out by the patient as the offending member. The diseased tooth will be found, I think, invariably upon the same side with the painful one, and usually upon the same jaw, but not always. It is often an under one when the pain is in the corresponding upper one, and an upper one when the pain is in the corresponding under one.

Sometimes, however, women whose teeth are quite sound suffer severely from erratic pains in the face and teeth during pregnancy, simply through the increased irritability of the nervous system, caused by the new action which is going on in the womb. But cases of this kind rarely occur where the instructions already given for the securing and preserving a healthy state of the system are properly followed. Should you suffer in this way, it will be wise to seek medical advice.*

* Attention to the matter of keeping the bowels in a relaxed state by the use of the pills directed for that purpose (page 289), and the taking of a drachm of the precipitated carbonate of iron, mixed with sirup of ginger, every night and morning, before eating, for several days, will sometimes work a cure.

PALPITATION OF THE HEART.

If this affection occur for the first time during pregnancy, it is rarely connected with any disease of the heart itself, and should therefore cause no alarm. It is, however, very distressing, and on that account requires medical treatment.

It will make its attack, perhaps, repeatedly in the course of the day, particularly after a meal; occasionally there is connected with it a throbbing in the temples, and also in the abdomen. It also very frequently comes on in the night, or upon first lying down, and may be brought on at any time by slight agitation of mind.

When it comes on, the hands and arms, up to the elbows, should be placed in water as warm as can be borne, and friction with the hand or a warm flannel should be applied to the feet and legs. Half a tea-spoonful of the compound spirits of ammonia in a wine-glass full of camphor mixture should be taken. It is well to have a bottle of this mixture in the bed-room, to be taken in the night, if need be, as it sometimes comes on while the patient is sleeping, when she awakens in a great fright, and in great distress for breath.

These attacks may sometimes be prevented by taking, for ten days or a fortnight, a tea-spoonful three times a day of a mixture composed of the carbonate of

iron and sirup of ginger, of each one and a half ounces, and keeping the bowels loose by the means already pointed out. See page 289.

CRAMP, AND PAINS IN THE LEGS, ETC.

Some females, during the latter months of pregnancy, suffer most severely from cramp, and pains in the legs, and about the sides and lower part of the abdomen. This is caused by the pressure of the womb upon the nerves distributed to these parts. If the cramp is seated in the muscles of the legs, a hard, knotty lump may be felt, and great soreness may continue sometime after it has disappeared. Getting up and walking about will commonly relieve it; but if this does not, warm friction with the naked hand or camphorated oil generally will.

If the spasm affect the sides or lower part of the stomach, the speediest relief will be obtained from twenty or thirty drops of laudanum in a little ether and peppermint water, or even, at the moment, a little brandy and water. Women who suffer from these attacks should keep constantly at hand a mixture composed of compound spirits of lavender, one ounce, and M'Munn's elixir of opium, half an ounce. Of this mixture, a tea-spoonful may be taken on going to bed, if there is the slightest intimation of an approaching attack during the night. It will be well, also, to have the feet placed in a mustard-seed bath for a little time each night.

SWELLING OF THE FEET AND LEGS.

During the latter months of pregnancy, the feet and legs frequently become much swollen, particularly in the after-part of the day. The woman who suffers from this cause always goes to bed at night with her feet and legs swollen; but toward morning the face swells, and the enlargement of the feet and legs disappears, to a greater or less extent, returning, however, as the day advances.

In the great majority of cases, this is a trifling disease, requiring simply the strictest temperance in eating, and even a very spare diet, and a very loose state of the bowels, procured by the means recommended when speaking of costiveness, or an occasional dose of cream of tartar and jalap;* or a tea-spoonful of the following powder may be taken in water two or three times a day.

℞ Potassa sup. Tart., ʒiss.
Potassa Sulph., ʒss.
Scill. Mar., ɜij.
Tart. Ant., grs. ij.
Mix.

In other instances, these remedies will not be sufficient; but the swelling will continue in spite of them, and perhaps the face, neck, hands, and all the upper

* Cream of tartar, grains xii.; jalap, grains vi.; to be mixed and taken in half a tumbler full of sugared water.

portions of the body, will be found bloated in the morning, while that of the feet has subsided very much, if not entirely. But in the after-part of the day the face will return to its accustomed appearance, while the feet again swell. In cases of this kind, especially if there be pain or a sense of fullness or pressure in the head, it is necessary that a medical man should be called in without delay. This can not be neglected without imminent danger of spasms, or perhaps fatal apoplexy, at or near the time of confinement, if not before.

Enlargement of the Veins of the Leg requires the careful application of a bandage and rest in the recumbent posture. This should be attended to by a medical man, as serious consequences often follow neglect.

JAUNDICE.

This arises sometimes about the fourth month, and disappears at the eighth or ninth. If the tinge is very great, advice should be taken; but if slight, taking three grains of the blue pill at night, and the following mixture in the day, will be sufficient to remove it. Take of carbonate of soda, two drachms; powder of rhubarb, one drachm; extract of taraxacum, one drachm; water, eight ounces: mix. Two table-spoonfuls to be taken three times a day.

Irritation of the Bladder, Retention of the Urine, or difficulty of passing it, require the bowels to be kept open. Drinks of linseed tea, barley water, &c., should be taken freely; and the patient should recline on a sofa. Great care should likewise be taken not to retain the urine too long. Half a drachm of tincture of henbane at bedtime is often of service.

Involuntary Passing the Urine when Coughing or Laughing is troublesome, but not to be cured. It is considered a favorable sign: rest is the only palliative.

Fainting is most usual during the first three or four months. It generally comes on after exertion, agitation, purging, or exposure to heat. The patient should be laid down with the head low; air should be freely admitted; the dress loosened; the face sprinkled with water; the forehead and temples rubbed with ether, eau de luce, Hungary water, or eau de Cologne; and an attempt may be made to give her a few drops of any of the things mentioned in the article upon "Palpitation." See page 297.

Hysteric Convulsions usually arise from the same causes as fainting. The face becomes pale and distorted, accompanied by faintness and convulsive movements; sometimes by screams and sobs, which generally end by a copious flow of tears. Let the forehead and temples be rubbed with eau de Cologne, and the other means adopted which are advised above under the head "Fainting."

Spitting, or Vomiting of Blood, calls for immediate professional assistance.

HEADACHE.

If severe and constant, and there is fullness of blood, indicated by a flushed face, dull or bloodshot eyes, sense of giddiness, heaviness over the eyes or in the skull, and the person is far advanced in pregnancy, advice should be taken *without loss of time.* All headaches, however, are not dangerous; they may arise from costiveness, indigestion, or nervousness. There is *then* a bad taste in the mouth, acidity, slight sickness, and the pain is confined to one part. This description of headache is relieved by opening the bowels, and keeping the forehead wet with vinegar and water, or diluted Hungary water or Cologne.

PAIN AND GREAT ENLARGEMENT OF THE BREASTS.

A few leeches should be applied, the breasts be well fomented, and afterward gently rubbed with soap liniment and laudanum. The bowels should be well opened. Nature often gives relief by a discharge of a milk-like fluid from the nipple.

OVER-DISTENTION AND PENDULOUSNESS OF THE ABDOMEN.

The first is best relieved by laxatives, leeches, fomentations, and frictions; the latter by a bandage, so made as to cross the shoulders and throw the weight upon them. (See page 51.)

PROMINENCE OF THE NAVEL.

A pad and bandage should be applied.

TURBULENCY OF THE CHILD.

The movements of the child are sometimes so violent that it seems as if it would force its way through the side. A bandage should be worn, and a few drops of laudanum taken every six hours. Bleeding is frequently of service; but let it be performed under the

sanction of your medical attendant, and not otherwise.

DESPONDENCY, MELANCHOLY, ANTIPATHIES, &c.

These are not uncommon. The two first are best remedied by change of scene, air, gentle exercise, cheerful company, and due attention to the diet, which should be nourishing; the bowels should be kept gently open. The last is of little moment: the patient, perhaps, takes a dislike to tea, coffee, wine, fruit, or meat, &c. She requires no treatment. Let her have any food she may like that is not unnatural, but on no account *permit* crude uncooked vegetables.

ABORTION OR MISCARRIAGE.

There is no accident befalling female health which forms a greater source of dread, anxiety, and subsequent regret to a married woman than miscarriage or abortion. When this occurrence becomes habitual, there are no circumstances the consequences of which are productive of more serious injury to the constitution, blasting the fairest promise of health, and oftimes laying the first seeds of fatal disease.

By the term abortion or miscarriage we mean the expulsion of the ovum from the womb at any period previous to the commencement of the seventh month.*

* If it takes place at any subsequent period, and before the completion of the full time, it is called a premature birth.

It frequently takes place within three or four weeks from the period of conception, but it *more* frequently occurs from the eighth to the twelfth week than at any other time. It is most liable to occur at the time the catamenia would have appeared if pregnancy had not taken place. When it takes place before the end of the second month, it is often difficult to distinguish it from being excessively *unwell.*

In a large proportion of cases it is caused by the death of the embryo, or some disease of its appendages within the womb; in these cases it is usually *far less* dangerous to life, and far less prejudicial to health, than when brought on by any other causes.

When the *child in the womb is dead*, there is a cessation of the morning-sickness and any other symptoms of pregnancy which may have been present. The breasts become flaccid and lose their firmness; if the pregnancy has advanced beyond the period of quickening, the motion of the child ceases, and a feeling of coldness and weight is felt in the abdomen. When these signs are observed, and are followed by discharge and regular pains, miscarriage will take place, and it will be improper to endeavor to prevent it.

If brought on designedly, either by medicines or by violence, it is always very dangerous, and not unfrequently terminates fatally, by excessive flooding (bleeding) or by inducing inflammation of the bowels.

Among the *other causes* of miscarriage we may name an irritable and feeble condition of the womb, overfullness of blood, extreme costiveness, fatigue, falls or blows, purging, vomiting, excessive exercise, particularly in uncomfortable attitudes, dancing, jumping, matrimonial *excitement of the passions*, tight clothing, immoderate laughter, excessive joy, grief, or fear, or an attack of acute disease, as fever, inflammation, &c., &c.

When, at any period of pregnancy, we have regular pains in the back and region of the womb, more especially if attended by a feeling of weight, griping, difficulty in passing water, and it coming away in drops, and a feeling of descent of the womb, we may fear that abortion will take place.

Now and then, particularly when it occurs for the first time, the whole process of a miscarriage does not occupy more than six or seven hours from the very earliest symptoms of its approach to its final completion. But in by far the greater majority of cases, more especially when it has become "habitual," its progress is not terminated in as many days, or even weeks.

When this is the case, it may be clearly separated into three distinct stages. By adopting this division, I shall be able to bring the most important portions of my subject before you in a clearer light, and to give

with more brevity and distinctness those directions which are to be followed.

First Stage.

I shall speak of that as the "first stage" in which the child has as yet received no essential injury—in which the symptoms are only those *menacing* a miscarriage. This is a stage of *warning*, and by improving it in time the unhappy event *may* frequently be avoided.

The first symptom, frequently, is a feeling of great depression of strength and spirits, for which no assignable cause can be given. The patient loses her appetite, and has a little fever; pains about her back, loins, hips, and the lower part of the abdomen soon follow. These are at first very transitory; they come and go, and, after a while, increase in frequency. Or, in case she has a strong and vigorous constitution, there will be an excited condition of the circulation, manifested by increased frequency and fullness of the pulse, throbbing in the temples, followed by headache, a hot skin, thirst, and no inclination for food, and, united with the pain in the loins, a feeling of weight and tension in the region of the womb.

These are so many symptoms threatening abortion, but of course they are always modified by the constitution and previous state of health of the individual. For instance, some will experience only an indistinct,

dull, aching pain in the loins, or back, or some other part, either constant, or coming and going, with or without slight languor, continuing many days, without any other or more severe symptoms.

Such symptoms, however slight, should receive prompt attention, especially if they come on at about the same period of pregnancy at which the patient has previously miscarried; if they do not, she has every reason to expect that the same event will again befall her.

Treatment.—She should *immediately* send for her medical attendant, and also retire to her bed, and confine herself strictly to it, resting on a mattress, with few clothes upon her, in a cool room; if she eat any thing, it should be simply a little arrow-root, tapioca, sago, or gruel. Her drink may be cold water, lemonade, or toast-water. This is the time when means can be used with the most prospect of success, and almost every thing depends upon their being put in operation at a sufficiently early period. The above directions, therefore, are to be implicitly followed until the arrival of the medical attendant, and *then the rules and regulations which he enjoins are to be followed with the most strict and unvarying attention.*

Second Stage.

But suppose the patient has not heeded these symptoms; that, never having miscarried, she has thought

nothing of a little pain in the back, &c., and has treated them as of no importance, what will be the consequence? In all probability the local pains will increase in frequency and severity, and soon a small discharge of blood, perhaps in clots, will be discovered. This indicates that a partial separation of the ovum from the womb has taken place, and marks the arrival of what I call the "second stage."

This is a stage of *hope*, and with *strict attention* that hope *may* be realized. But in order for its realization, in a situation so critical, a prompt and vigorous practice on the part of the medical attendant, and an equally decided and vigilant conduct on the part of the patient herself, will be required. Let her remember this, and if she is tempted to disobey the instructions she receives because they appear trifling or too rigorous, let her recollect that no man who enjoys her confidence would willingly lay down one rule too strict, or one injunction the performance of which was unimportant, and that by *one* act of disobedience she may blast every hope of success, and thus, in a single moment, throw away the results of hours, nay, of days and weeks, of careful deprivation.

If the premonitory symptoms already described as constituting the "first stage" have been present for any length of time, it is comparatively seldom necessary that the process should advance to this second stage, unless there has been a death of the fœtus, or the ovum

is diseased; but it not unfrequently happens that the flowing of the second stage appears almost from the first: this, indeed, is most frequently the case when a sudden shock or fall causes the threatening symptoms.

Treatment.—If the second stage—the escape of blood—has appeared, the patient should immediately call her physician; and, until he arrives, pursue in other respects the same course as already pointed out to be followed in the first stage, with the addition of keeping a linen cloth wet with cold vinegar and water upon the lower part of the bowels, and extending downward between the limbs: this should be frequently exchanged for another, so as to keep a cold one upon her constantly. She should lie upon her back, with the hips a little raised, and her head and shoulders lower than usual, and lower than the hips, if it can easily be done.

Third Stage.

The third stage is indicated by an increased flow of blood. Sometimes the flooding is truly alarming. The pains, too, increase in frequency and severity, and become expulsive or bearing down, indicating an entire separation of the ovum from the womb. When the process has arrived to this point, there of course remains no hope of preventing a miscarriage, and it only remains for the medical attendant to conduct his patient safely through to the end, and afterward adopt means for restoring her health and strength.

The habit of aborting is to be avoided by maintaining the general health in as good a condition as possible, agreeably to the directions already given in the preceding pages, and avoiding the causes named above, or any other causes that have been known to produce it previously; and maintaining the recumbent posture upon the bed or sofa most, or all of the time, for a few weeks during that stage of pregnancy at which previous miscarriages have taken place.

Any further instruction required should be sought from the medical adviser, as it will vary very much according to the peculiar habits and state of health of the individual.

FALSE PAINS.

Toward the end of the period of gestation, women are subject to pains, of a somewhat periodical character, in the back, loins, and bowels, simulating true labor-pains in some respects; but, not being connected with any action in the womb, they are called *spurious* or *false pains*. Sometimes they are confined in their situation to one part; at others they are wandering from place to place. Sometimes they recur at pretty regular intervals; but at other times they are very irregular in their recurrence. They are also irregular in respect to severity, some being very light, and others severe. They generally come on in the night; and not unfrequently they will annoy the patient every night

for weeks before the commencement of labor, harassing her so much by their severity as to prevent her obtaining any sound, refreshing sleep. They are more frequent in first pregnancies than in subsequent ones. They are frequently of a rheumatic character; but in other instances they are caused by some derangement of the digestive organs or a loaded state of the lower bowels; hence a full dose of castor-oil, or other active but mild cathartic, will often remove them entirely; or, if it does not, a subsequent one of Dover's powder, or fifteen drops of laudanum, will accomplish the object.

They can usually be distinguished from true labor-pains by their unequal severity, and the irregularity of their returns. True pains at the beginning of labor are short and weak, and the intervals between them long; and they pretty regularly increase in severity and frequency as the process of labor advances.

False pains, on the contrary, usually observe very little, if any, regularity, either in regard to the periods of their return, or to their progressively becoming more and more frequent, or more and more severe.

True labor-pains, also, leave the patient perfectly free from all pain or uneasiness during the intervals between them. They are truly *intermittent;* but this is not often, if ever, the case with false pains. There is very uniformly some pain, or at least uneasiness, between *their* exacerbations—they are simply *remittent.*

Sometimes they do not come on till within a day or two, or even a few hours before the commencement of labor, and continue till some time after the true labor-pains have commenced. Some cases of this description are very annoying to the patient, and sometimes perplexing to the physician.

DISPLACEMENT OF THE WOMB.

During the early part of pregnancy—say for the first eight or ten weeks—women are more liable than at other times to a displacement of the womb. The top of it sometimes falls backward, and produces great distress. This accident is most frequently, if not always, caused by the distention of the bladder (which lies directly in front of it) with urine, and standing up or walking while the bladder is thus distended.

The occurrence of this accident should be guarded against by carefully attending to the evacuation of the urine at short intervals, and avoiding fatigue from standing, walking, riding, lifting, or straining.

When it occurs it produces great pain in the lower part of the back, about three inches from the extremity of the bone, and also in the lower part of the bowels, just above the front bone, accompanied with a painful desire to pass the urine, but an inability to pass any at all, or more than a few drops at a time.

Under these circumstances, nothing should deter you in the least from sending at once for your medical

attendant, who will easily restore it in a few moments, and without causing you any pain.

When there is a *falling down of the womb simply*, there is a sensation of something coming down from the person. It begins early in pregnancy, and disappears about the fourth month; rest is the best remedy.

VACCINATION.

Pregnant women should *never* be vaccinated unless the case be one of the greatest urgency. For some reason, perhaps not well understood, it has been found to be often far more injurious to them than we should expect.

CHAPTER XXII.

DISEASES OCCURRING AFTER CONFINEMENT.

AFTER-PAINS.

These pains are very similar to the early pains of labor. They may be expected to commence soon after delivery, and to recur at intervals for a day or two, and to be accompanied or followed by a bloody discharge from the womb. They are of a salutary nature, and should be patiently endured. If they become severe, the medical attendant will prescribe the proper remedies. In his absence, warm fomentations may be applied to the lower part of the bowels. A small bag of hops, steeped in water and a little vinegar, and then pressed so dry as to prevent dripping, is a very good remedy. A few drops of tincture of camphor taken in a little water will sometimes afford much relief.

SUPPRESSION OF URINE.

If no water has been passed within twelve or fifteen hours after delivery, fomentations, such as are prescribed for after-pains, should be applied. If these should fail to afford relief within a few hours, or if any uncomfortable feeling should be experienced on

account of the suppression, and especially if the urine is found to be passing off in very small quantities at a time, or drop by drop, medical aid should be *immediately* called.

SORENESS AND PAIN AFTER DELIVERY.

When there is extreme sensitiveness or soreness of the parts after delivery, a handful or two of brown sugar may be put into a thin muslin bag, and then wet with brandy and spread out in the form of a poultice, half an inch thick. This may be laid upon the part affected, and will be found a most excellent remedy.

THE LOCHIA.

There will be a more or less constant discharge from the womb for one, two, or more weeks after confinement. Frequent washings with soft warm water should be practiced so long as it continues. Should it suddenly cease, the patient should take warm drinks, and make use of the warm foot or hip bath. If these do not re-establish it, medical aid should be sought. It should also be called if it is very profuse, otherwise serious consequences may follow.

SORE NIPPLES.

If the nipples become tender and fretted, they should be washed several times during the day with brandy, or a decoction of green tea, or a solution of nitrate of

silver—one grain to an ounce of rose-water. After each washing, they are to be wiped with soft linen till perfectly dry, and exposed to the air for a little time, and dusted over with starch powder.

If they are hot or inflamed, and painful to the touch, they should be covered with a poultice made of slippery-elm bark, or bread and milk, to reduce the inflammation, and then dressed with spermaceti cerate. For the cure of the small chaps or fissures which often form in the skin, particularly around their base, I know of no other remedy that will, in so many instances, prove effectual, as the application of a solution of twenty grains of nitrate of silver in half an ounce of rose-water. It should be applied with the point of a fine camel's-hair pencil, and to the chaps only. It should not be applied to the sound skin.

INFLAMMATION OF THE BREASTS.

A few days after confinement, the breasts sometimes become very much swollen, hard, lumpy, heavy, and painful. Great care should be taken to prevent such a state by keeping the milk from accumulating in the breasts. It should be frequently drawn out by some means. In addition, the breasts may be fomented with flannels wrung out of warm water and vinegar for an hour or two, and then rubbed for some time with camphorated olive-oil. These measures may be repeated after six hours, if necessary. Some caution must be

used, however, against using the camphorated olive-oil too freely, as it has a strong tendency to dry up the milk.

Common whisky, or equal parts of alcohol and water, makes a very good wash in some cases, especially where the breasts are full of hard lumps, but not very hot, inflamed, and painful. A single thickness of linen, kept constantly wet, may be spread over the breasts.

If, however, this state of the breasts is ushered in or attended with a *chill*, or other indications of fever, medical aid should be *immediately* called. There is the most imminent danger of the formation of an abscess or a "broken breast."

NURSING SORE MOUTH.

In this disease, the roof of the mouth becomes very red, and so extremely sensitive and tender as to render it almost impossible for the patient to eat any solid food whatever. It is an entirely different affair from canker. The soreness often spreads to all parts of the mouth. The disease is sometimes attended with such extreme suffering and debility, that the weaning of the child becomes indispensable. After this is done, the mother is soon relieved of the sore mouth, and rapidly recovers her ordinary health.

In mild cases, however, the severity of the disease may be very greatly mitigated by proper medical treatment. The first instance of this disease that fell under

my care was in a person with whose constitution I was well acquainted. None of the remedies I had ever seen or heard recommended appeared to me at all adapted to her case. After giving the subject due consideration, I prescribed for her use the tincture of myrrh. She was directed to take half a tea-spoonful or more into her mouth, and hold it there for a little time, washing her mouth all over with it. She was to repeat this every few hours, and was also to swallow as much as from one to three tea-spoonfuls of it daily. This treatment operated most admirably upon her. I have since prescribed it in a great many instances, and uniformly with good results. I have seen only one instance where the weaning of the child became indispensable. In this case the patient had been greatly debilitated by the fever and ague.

EFFECTS UPON THE MOTHER OF TOO PROTRACTED NURSING.

When lactation is prolonged until it becomes a source of exhaustion to the mother, there is usually first observed an obvious increase of debility, attended with disagreeable sensations in the stomach and head. The digestive powers become so enfeebled that nothing but the simplest and mildest articles of food can be tolerated. Those that are not easily digested seldom fail to produce severe pains and disturbance in the head, with distressing sensations in the stomach, or in the heart, or lungs, or in all these together.

Severe pains occur in the head, often confined to the back part of it, or to one side. A tormenting pain is often felt just under or below the ribs, upon the left side, directly below the left breast. The countenance becomes peculiarly pale and languid. Palpitations of the heart, and alarming paroxysms of nervous agitation, accompanied with a distressing sense of sinking and emptiness in the region of the stomach, and perhaps an intense dread of dying, or a constant apprehension of some dreadful accident, not unfrequently occur. There may also be more or less cough, with night sweats, and slight febrile action, with other symptoms of a consumptive character.

To relieve this exhausted and disordered condition of the system, medical aid is usually sought, and too often tonics, alteratives, and other medicines, together with a nutritious diet, freely and perseveringly employed, yet always in vain, and often with manifest injury. At length the child is weaned, but often not till the mother has been reduced to such a degree of weakness, that what might at an earlier day have been effected in a few weeks, by the timely separation of the child from the breast, can hardly be accomplished in many months by the most judicious and careful remedial management.

You may wonder why cases of this kind are ever allowed to become so severe. I will tell you. They sometimes occur under the care of incompetent prac-

titioners who are not fully aware of the nature and cause of the malady they are called upon to treat, or the means that it is absolutely indispensable should be adopted for its removal; and they sometimes occur under the care of those well qualified for the discharge of all the duties of their profession, through the perverse obstinacy of the patient herself, perhaps, aided on in her murderous course by her friends, in opposition to all the advice and solicitude of her medical attendant. You may number such cases as among the trials of the physician, with far more propriety than all his night journeyings and watchings.

The proper management consists in immediately weaning the child, in conjunction with a mild, simple, and nutritious diet, together with medicines calculated to restore tone to the digestive organs.

I am aware that there is an impression very common among women, that conception does not take place during the period of lactation. This impression has very little, if any truth, for its support.

Nursing seldom, if ever, prevents the recurrence of pregnancy, except by producing debility and other disturbances of the general health of a more or less severe character.

CHAPTER XXIII.

DISEASES OF CHILDREN.

General Observations.

It must be remembered that the mother has a most important part to perform in the treatment of all diseases of infancy and early childhood. I refer to those cares which constitute the domestic management of the child during sickness, and which must be constantly exercised from the first moment of indisposition, until health is again entirely restored.

Temporary indisposition from disorder of any of the natural functions is often to be put to rights by domestic remedies alone, such as quiet, warmth, and abstinence from food, and perhaps a warm foot bath, and confinement to the bed for a day or two; but if these measures do not succeed, and the symptoms of disorder rather increase than diminish, it is as much the wisdom as the duty of the mother to send for medical aid before disease of a serious nature shall have become established.

Whenever a child becomes *suddenly ill*, there should be no temporizing with the hope that he will soon be better. Much valuable time is frequently thus lost, and the delay is occasionally fatal to the child.

The *physician being in attendance*, his advice ought in all cases to be strictly and conscientiously followed. This is the only safe course for the parent to pursue. If she allows herself, in an unguarded moment, to be persuaded by some kind friend who may call to adopt a remedy which has been so successful "in just such a case as this," without first submitting the question of its use to him, she may do irreparable harm.

Children, whether sick or well, should always be treated with frankness and honesty. The difficulty which is sometimes experienced of inducing young children to take medicine is not unfrequently caused by want of proper management on the part of the parents. Mothers are too apt to show, by their remarks or appearance, that they expect the medicine is nauseous to the taste, and that the child will refuse to take it. With this forewarning, it is not strange that he does so. To overcome this evil, resort is too frequently had to *deception*, which being once or twice detected, the child becomes constantly suspicious.

In other instances, a resort is had to a still worse and more unjustifiable measure. The child is threatened with what the "doctor" will do when he comes. These threatenings always do great injury. They cause the child to regard his physician as an object of the greatest dread, instead of as one of his very best friends. This idea often causes the child to be so excited during the visits of the physician as to greatly aggravate

all the symptoms, and to render it absolutely impossible for him to determine the real state of his patient.

Special pains should always be taken by the parents to cause their children to look upon the "doctor" as a kind and sympathizing friend.

The physician, too, should endeavor to so exhibit the real kindness of his heart that the child shall be made to feel at ease in his presence, and for this purpose, if no other, should avoid, as far as possible, the ordering of any medicine unpleasant to the taste.

Medical treatment, in order to be successful, must always be seconded by a careful, painstaking, and judicious maternal superintendence. The amount of suffering, too, and consequently the severity of the disease, may often be greatly lessened by the thoughtful and discerning care of the mother. The wants and necessities of the patient should be anticipated, and the fretfulness produced by disease soothed by kind and affectionate attentions.

It is also of importance, whenever the physician visits his patient, that the report of the symptoms and progress of the case should be unbiased, faithful, and full. An erroneous report may possibly produce upon his mind a very wrong impression as to the actual state of the disease.

Serious mischief now and then ensues during illness from the *mismanagement of the diet.* Its proper regulation is important, not only during the active stages

of disease, but also during the progress of recovery. By some apparently trifling indiscretion in this particular, the most serious results may be induced. There is often no greater obstacle to recovery or source of relapse than dietetic negligence.

It is a great mistake to think that medicine is to do every thing. If active disease is present, it may be the child's salvation; but very often the disorders of children are to be removed almost entirely by general measures aiding the restorative powers of nature, with the aid of very little if any medicine.

It would be a great mistake, however, to suppose that medical advice may either wisely or safely be left unsought or disregarded. In all cases of actual disease, the judgment and counsel of the physician is necessary, in order not only to determine whether any medicine is necessary, and if so, what, but also to point out the course to be pursued in respect to other matters, so as to restore health in each particular case.

The *sick-room* should at all times be kept as quiet as possible. It should be a large room, and in a part of the house as far removed as may be from the rooms occupied by the family.

It should also be well *ventilated.* In sickness the system becomes more keenly susceptible than ever to the mischief of breathing a vitiated air. Every thing likely to corrupt the atmosphere should be as speedily removed as possible.

The *visits of friends* should not be allowed. Their conversation is always mischievous to the sick child, by the excitement it invariably produces in his mind.

Bathing should be frequently practiced for the preservation of health. It is often very serviceable in the removal of disease.

Water, at various temperatures, when judiciously and properly used, is a most powerful and salutary remedial agent. But, when misapplied, it is an agent capable of exerting influences of a most deleterious, and even fatal character.

By the term warm bath, one of a temperature of from 92° to 98° is meant. One of a temperature of from 82° to 92° is termed a tepid bath. One below 80° may be called a cool or a cold bath. A bath of over 98° is a stimulant. One below 95° is a sedative remedy, having an entirely opposite effect upon the system from that of a stimulant.

In all cases after bathing, the whole surface is to be quickly rubbed with a flannel or a coarse towel till perfectly dry, and a fresh glow of warmth is produced. The best time for bathing, where the person is not severely sick, is either early in the morning, upon first rising from bed, or near noon. No person should bathe within three hours *after* breakfast or dinner. Just before going to bed at night will be a very good time, if only a light supper has been taken, and that at least an hour previously.

A warm *foot bath* is a very valuable remedy, and may be often used with advantage in the nursery. When the first chills and shiverings which arise from a cold, or which seem to be ushering in some disease, have been complained of, and the feet, upon examination, are found to be cold or cool, as they usually will be under such circumstances, they should be bathed in water as warm as can be borne, and kept in the bath, if possible, until a free perspiration is produced.

During the period of teething, too, when the child exhibits evidence of illness by unusual heat of the head, and coldness of the feet, resort should be had to such a bath. He may sit with his feet and legs in hot water, with a blanket thrown over and around him, for from fifteen to thirty minutes, and then taken up, his feet and legs wiped dry, woolen stockings put on, and then laid into a warm bed.

The *mustard* foot bath is made by adding one tablespoonful of mustard flour to each gallon of water, and may be used when the feet are very cold, and it is necessary to warm them as quick as possible, as it will be oftentimes during teething, when the head is very hot and the child is attacked or threatened with convulsions.

With these brief preliminary remarks, which should always be borne in mind by parents having the care of sick children, I now proceed to speak of particular diseases.

INFLAMMATION AND ENLARGEMENT OF THE BREASTS.

This mild disease, which is somewhat common in new-born infants, has, by great mismanagement, often been converted into a very painful and dangerous affection.

It is commonly believed by nurses, in some parts of the country, that it is occasioned by an accumulation of milk, and that this milk must be squeezed out before they can get well.

This should never be attempted or allowed. A small piece of linen, moistened with sweet-oil, may be laid upon the breasts, or a similar piece, moistened with a solution of muriate of ammonia in vinegar and water —muriate of ammonia, one drachm ; vinegar and soft water, each four ounces—may be applied. The last named preparation acts very promptly in reducing the disease, and is so uniformly successful that I need name no other remedy.

INFLAMMATION ABOUT THE NAVEL.

If the parts around the navel are not properly protected, washed and dried, and perhaps dusted with starch powder, once or twice daily, they may become very red and sore. After the remains of the umbilical cord have separated, a linen cloth, spread over with spermaceti cerate or with mutton tallow, should be laid over the place, especially if the skin is red and irritated.

Sometimes a thin discharge will take place, which, if the part be examined, will be found to proceed from a small growth about the size, perhaps, of a pea, or even less. This must be removed by applying a little powdered alum, and afterward dressed with calamine cerate.

Now and then a growth sprouts up and bleeds. Let this be touched with lunar caustic, or any other astringent application, or let pressure be employed, still it will bleed; not freely or in a stream, but there will be a constant drain from the part, and the infant, as a consequence, will waste, and be brought to death's door. Excise it, it will only make matters worse. The treatment in this case consists in simply winding a piece of very narrow tape round the growth, and then leaving it untouched. The bleeding will soon cease; the fungus will sprout over the upper margin of the tape; in a very short time it will, as it were, strangle the diseased part, which subsequently falling off, a complete cure is accomplished.

RUPTURE.

This generally, in the child, occurs in the navel or near the groin. Curative measures are commonly attended with success if they are unremittingly employed. It is of vast importance that a cure should be effected during childhood, or the individual will, in after years, suffer a constant discomfort, be disqualified

for many kinds of exertion, and may any day be in danger of losing his life. Now the cure mainly depends on the persevering care of those who have charge of the child, and the subject is noticed here to press this point on the attention of those on whom the responsibility devolves.

Rupture of the Navel is by far the most frequent form. It is generally first observed about two months after birth. The navel should have closed, but it has not, and a portion of bowel protrudes through the opening, and, covered by the skin and integuments, forms the hernia or swelling, which will vary in size from a hazelnut to a walnut, always, however, increasing in size when the child strains either by coughing or otherwise. The object in the cure is to *keep the bowel permanently within the abdomen*, so as to give nature an opportunity of closing the opening. The mechanical means selected for this purpose by the surgeon will differ according to his own experience; but, whatever means are adopted, the treatment will have in view this one simple but all-important object, and will utterly fail unless continued vigilance is exercised by the nurse to carry out this intention. Not only must she be certain that the mechanical means are always in place, but, when removed for the purposes of bathing and cleansing the child, that during this process the bowel is not allowed to come through the opening; to guard against which, she must place

her own finger over it until the bandages are reapplied. All this requires the exercise of constant watchfulness; but perseverance will be successful.

Of rupture near the groin no *mechanical* means can be commenced with any expectation of success, so far as my experience goes, until after the first twelve months have expired. To do any good, a truss must be worn, and it is impossible to accomplish this satisfactorily at this early period. Take what pains you may, the instrument will become displaced, the straps be constantly soiled, irritating and chafing the skin of the child, and with all your care and perseverance you will at last be obliged to relinquish its use until a later period. Moreover, the very fretfulness caused by wearing the instrument at this time, and under these circumstances, tends to increase the size of the rupture: you must be content to bathe the parts with cold water night and morning, and keep the child as tranquil as possible to avoid crying. Sometimes you will succeed by these means alone in effecting a cure before the time arrives when the truss can be usefully resorted to.

In either form of rupture, should the child, at any time before its cure, be evidently suffering from pain traceable to the complaint, it is important to recollect that the surgeon should always be sent for, to see and examine the child.

TONGUE-TIE.

This is not a disease, but it may demand attention. In order for the child to draw milk from the maternal breast, it is necessary that its tongue should be expanded upon the nipple in such a manner as to embrace a large portion of its surface. But the tongue is sometimes tied down by a thin fold of membrane beneath it, so closely as to greatly interfere with this operation. The child is observed to have much difficulty in seizing upon the nipple with sufficient firmness, and when it attempts to suck, a clucking sound is heard. It will be found, too, that the child can not protrude the tongue beyond the lips.

There is no remedy for this but a division of the membrane causing the impediment, which will be done by your professional attendant.

JAUNDICE OF INFANTS.

Young infants are liable to a yellowish or jaundiced state of the skin, of a very slight and transient character, requiring little or no attention, or, at most, only a tea-spoonful or two of a mucilage of quince seeds, or of slippery-elm three or four times a day, to allay any irritation that may exist in the stomach.

If, however, the child appears unwell or in pain, and especially if the meconium has not ceased to appear, and the diapers do not exhibit their proper healthy yel-

lowish color and consistency, a tea-spoonful of cold-pressed castor-oil should be given, and repeated every two hours until it operates. It will be well to add to the oil a tea-spoonful of weak valerian tea.

But if the skin and *eyes* are yellow, and the stools *whitish* or *clay-colored*, a physician should be called; the child is sick, and needs medicine.

RETENTION OF URINE.

In some instances no urine is passed for one or two days, or perhaps a longer time after birth, simply because none is secreted. In such instances, the child gives no indication of suffering or inconvenience, and no special anxiety should be felt on account of the delay.

In other instances, the retention seems to be closely connected with some irritation in the bowels, of which the child gives evidence. When this is the case, a tea-spoonful of oil should be given, and followed in about an hour and a half by a warm hip bath, and cool cloths to the head, if that is hot.

In other cases, there is a physical obstruction preventing its flow; the passage is closed over near the surface of the body by a thin membrane.* The nurse should be aware of this, and if she finds any thing

* Sometimes the bowels have been found closed in the same way. Instances have been known, too, where the passage to the womb has been so closed. This causes no inconvenience until after the age of puberty, when an operation becomes necessary in order to allow the escape of the menstrual discharge.

wrong, should inform the physician. He can very easily remove the obstruction.

SORE EYES.

This affection is liable to appear soon after birth. The eyelids become swollen, and a whitish, purulent discharge, somewhat resembling cream, becomes very abundant, and often sticks them together so firmly, while the child is sleeping, that, upon waking, he is unable to open them.

If the discharge is *all* carefully washed away with soft warm water, or milk and water, every hour or two, or as often as any is found to collect, the inflammation and swelling will usually disappear in a few days. It is not a disease demanding solicitude, or very active treatment. One grain of acetate of lead, dissolved in one ounce of soft water, makes a good wash, which may be used twice a day if the disease continues many days.

THRUSH, OR SORE MOUTH OF INFANTS.

This affection, so common among young infants, and which is characterized by the eruption of small white spots, called thrush or canker, is most commonly, in mild cases, speedily cured by the use of equal parts of borax (borate of soda), loaf-sugar, and gum-Arabic, all finely pulverized and mixed. Of this mixture a third or half a tea-spoonful may be taken dry, and put into

the child's mouth two, three, or more times a day. In addition to this, it may be necessary, if the bowels are deranged, to give some mild cathartic, such as castor-oil, or rhuburb and magnesia, and to *attend carefully to the diet.*

SNUFFLES.

Some infants are very liable to a slight catarrhal affection, which nearly or quite prevents their breathing through the nose. The consequence is, that the moment they begin to nurse they begin to strangle, and soon throw their heads back in a very unpleasant manner. This trouble may frequently be relieved in a few minutes by the use of camphorated olive-oil. It should be applied to the whole surface of the nose, and may be repeated as occasion requires. It is more frequently required in the night than during the daytime.

A tea-spoonful of castor-oil may also be given to operate upon the bowels, if the oil upon the nose does not afford entire relief.

TEETHING.

Teething is a natural process, which those children who are blessed with a healthy constitution, and have, up to the time of its commencement, escaped all disease, and also have been properly managed as to diet, dress, exercise, and exposure, go through without experiencing much, if any difficulty.

But, on the other hand, those children who have not been thus blessed in these respects often suffer severely during this period. It seems proper, therefore, that it should be spoken of as among the diseases of infancy.

After the first eight teeth have protruded, the double teeth come next, and the stomach and eye teeth last.

In some cases, the inflammation and swelling of the gums becomes severe; the mouth is hot and dry; the gums extremely sensitive, and intolerant to the slightest pressure. The head becomes hot; there is high fever, and great thirst for cold water. In some cases, the heat of the head, dryness of the skin, dryness of the mouth, and thirst, are occasionally exchanged for a profuse perspiration, a great flow of saliva, and relaxation of the whole system. This change is only tem porary, however; the heat, fever, dryness of the skin and mouth, with great thirst, soon return.

In other instances, these febrile symptoms are constant. The child is at one time restless, fretful, and irritable; and at another, heavy and oppressed. Its sleep is broken by frequent waking. The child starts from its slumbers, screaming, and in great alarm; or he is troubled with frequent spasmodic twitchings of his hands or feet while sleeping. If any of the teeth have already made their appearance, he will be observed to grate them together. The bowels are very apt to become constipated at first, and afterward to run to the opposite extreme.

During the whole period, the system of the child is frequently in a peculiarly excitable condition, so that apparently trifling causes, such as at other times might produce no perceptible effect, may now excite a severe train of symptoms.

It is evident, therefore, that too great care can not be taken to preserve children from any sources of disease to which they might otherwise be exposed.

I have already said all that need be said in regard to the diet, dress, exercise, exposure, &c., &c., of children at this age. If these rules have not been followed, the child should be brought under them in the strictest manner the moment any indications of trouble appear.

The quantity of food should be at once diminished to as small an amount as will appease the appetite Cold water should be freely allowed for drink, and the child kept as quiet and cool as possible. Heated rooms should be carefully avoided, and in the summer season the head should be carefully protected from exposure to the sun's rays, while moderate exercise in the open air should be daily taken to the full extent of the child's strength.

The gums should be examined, and, if found enlarged, they should be lanced. This lancing of the gums is looked upon with much horror by many mothers, but it occasions but very little, if any, pain to the child. It is true, children almost always cry when it is done, and it is also true that they almost as invari-

ably begin to do so before the lancet touches the gums. After it is done, they will, not unfrequently, look up very smilingly into the face of the person who has afforded them so much relief by the operation.

If the bowels are constipated, it will be necessary to administer some mild cathartic, more or less frequently, if they can not be relaxed by means of the diet and the drinking of large quantities of cold water.

If they are simply moderately relaxed, there should be every effort made to keep them so. If they are not moved more than two or three times a day, nothing should be given to check this state; but if more than that, particularly during the hot season, there is danger of an uncontrollable diarrhea. The aromatic sirup of rhubarb—not the sweet tincture—will in such cases be found an almost invaluable article. It should be given in tea-spoonful doses every four or six hours till it changes the color of the stools somewhat, and then omitted for a time. Sometimes mild astringents, such as blackberry-root tea, will be useful in checking diarrhea; but they are not to be used in the early stages, nor while there is any febrile action in the system. Stronger astringent remedies should never be used without professional advice.

If the child has not a flannel garment over the bowels, one should be put on immediately. A small quilt, just large enough to cover over the bowels, and fastened in its place by means of a tape passing over the

neck, and others passing round the body like apron-strings, is no contemptible remedy for summer complaints, and, whenever it will answer the purpose, it is far better to make use of it than to resort to the use of medicines.

If these means do not control the action of the bowels, it will be much better to call a physician and follow his directions than to trust to your own skill or to that of your neighbors.

CONVULSIONS.

At no period of life are convulsions or "fits" so frequent as in infancy, and particularly during the period of dentition. They may then be induced by comparatively slight errors in diet, or by other causes, which at other times might be harmless. They sometimes occur suddenly and without any premonitory symptoms, but are commonly preceded by spasmodic "twitchings" of the hands and feet during sleep, or of the eyelids and muscles of the face, or of the eyes themselves, while awake, accompanied with alternate flushing and paleness of the face, or sudden animation followed by languor, and by great *heat* of the back part of the head and neck.

Whenever any of these symptoms make their appearance, and there is reason to suppose they are caused by errors in diet, an emetic should be given. Sometimes a few spoonfuls of warm salt water will be

sufficient; if not, ipecacuanha should be used. Or, if the symptoms are not severe, a mild cathartic may be given. The gums should, if swollen, be immediately lanced.

The head is to be kept cool by the application of cool or cold water. The feet, legs, and hips should be placed in a bath; if the feet are warm or hot, the temperature of the bath should not be over 85° or 90°. If they are cold, and the legs and hips cool also, the temperature should be from 90° to 96°. The diet is to be carefully regulated, and every possible means used to prevent any excitement of the mind. By these means the attack of convulsions may usually be prevented.

If, however, the child is convulsed, the mother should not be frightened, but, as speedily as possible, apply snow, or cloths wet in *cold* water, to the back of the head and neck, exchanging them as often as they become warm. She should also make use of the bath, as above directed, or, at least, of the foot bath, observing the same directions as to its temperature as just given. Then, if the gums are swollen, and there is no one else to do it, she should cut through them down upon the advancing teeth.

After the convulsion has ceased, she may follow the direction above given for removing the contents of the stomach and bowels. By this time the physician will be present, and direct what further measures are necessary.

Inward Fits are a slighter degree of spasm or convulsion, and appear generally to be caused by wind in the stomach and bowels. The mouth during sleep is drawn into a smile; the eyelids are not quite closed, and the eyes are turned about, so as sometimes to show the whites; the breathing now and then flutters, and the child is easily startled. These generally go off in a short time, but are sometimes followed by vomiting and purging, or sleepiness, ending in convulsions. The infant's bowels should be opened by small doses of magnesia, or a mixture of magnesia, oil of aniseed, and tincture of assafœtida should be given now and then.

Some infants, soon after birth, and when the *meconium* should have been all removed, still continue to pass dark-colored motions, are languid and moan; they then fall into a state more like fainting than convulsions, and perhaps die in forty-eight hours. The use of calomel and aromatics are proper in this affection.

Some, soon after birth, cry violently, and become more or less convulsed repeatedly. The use of the warm bath, castor-oil, and rubbing the belly with a little olive-oil is of service. Infants of a month old, who are badly nursed, are subject to colic, which induces violent screaming, and then a convulsion which may carry them off. Not doing so, the bowels should be attended to, and the child treated as above recommended.

When the child has repeated convulsions, and almost constant moaning and bending back of the neck and spine, the disease is generally incurable, as it proceeds either from inflammation or from water in the head.

Children disposed to water in the head sometimes fall down for a few seconds insensible, without much, or perhaps any convulsion. By purging, and keeping an issue on the scalp, the danger may be averted.

All these cases demand professional attention.

EARACHE AND ABSCESS WITHIN THE EAR.

Earache is a frequent and painful disease both of infants and children. If too young to talk, the disease may be suspected by its being seized with a sudden and severe fit of crying, as if it had colic (and like it, the pain seems to be easier at times); but the child does not, as in colic, *spur* or kick with its feet, nor is its belly hard; but the head is restless, and much complaint is made if the ear is touched, or pressure is made with the finger upon the tube of the ear. The little patient will also, at a very early age, be noticed to be frequently putting his hand up to the affected side of the head. There is not usually much disturbance of the system, but the pain is often excruciating. It is important that these symptoms should be remembered as indicative of this complaint. The child may thus be saved from a great deal of unnecessary suffer-

ing, and often from consequences of a very serious character, such as deafness, if proper measures are resorted to.

Heat in some form should be immediately applied. The heart of a roasted onion, placed while warm within the external passage, is a very excellent remedy, and is regarded by many as a sure specific. In addition to this, fomentations of chamomile flowers or of hops should be made over the ear and in front of it. If the onion above named is not to be had, a little cotton wet with a few drops of hot laudanum and olive-oil mixed may be pressed gently into the ear instead; hot laudanum should be rubbed on back of the ear, or a small blister should be applied there. These applications should be exchanged for warm fresh ones from time to time, as often as they get cold. It is well that a fold or two of flannel or a piece of oiled-silk should be placed over the fomentations to keep up the heat and moisture. In the mean time, the bowels should be briskly operated upon by a full dose of castor-oil, or rhubarb and magnesia, or confection of senna.

If the child is teething, lancing the gums and giving a dose of oil will frequently be sufficient to stop the complaint.

These measures, if promptly employed, will generally arrest the inflammation, prevent the formation of matter, and entirely remove the complaint. If, how-

ever, time has been lost from the nature of the case not having been understood, and then only temporizing applications resorted to, the inflammation will go on and an abscess form. Indeed, this will sometimes occur where every thing has been done to prevent it. In this case no decided relief to suffering will be experienced until the abscess burst and matter is discharged, when all pain will suddenly subside, and the child be perfectly easy.

The ear must now be carefully, and with very gentle efforts, syringed out three or four times a day with tepid milk and water. This will be very grateful to the child, and the youngest will generally allow it to be done with the greatest quietness. It is of much importance to keep the ear-tube as free from the discharge as possible, and to encourage the healing of the abscess, which may be further promoted, after a day or two, by substituting for milk and water an infusion of cinchona bark (one ounce of bark, upon which pour a pint of boiling water, and macerate for six hours in a vessel lightly covered, and strain). If the discharge should continue after a few days, and become offensive in character, an extension of the disease is to be feared, and possibly deafness. Throughout the progress of the case medical aid will be sought by those who are able to obtain it; and, at this juncture, those who have it not ought most certainly to seek it.

Discharges of Mucus, matter, or blood sometimes take place from the privates of *female infants*, but more frequently from *female children*, and have sometimes given rise to unpleasant and uncalled for suspicions. If the discharge is white, it generally goes off, by attention to cleanliness and keeping the bowels open, in a few days; but if bloody or greenish, it is obstinate, and requires a more complicated treatment, and professional attention is required. The cold bath is always of service, together with purging, and keeping the parts very clean by means of a sponge and warm water.

Dysury (*difficulty of passing Water*) is to be relieved by warm fomentations, and a drop or two of sweet spirits of nitre.

Incontinence of Urine (inability to retain the water), especially in bed, is sometimes incurable until toward puberty. The best remedies are those that strengthen the habit of body, as country air, exercise, and sea-bathing. A Burgundy-pitch-plaster may be applied as low as possible upon the back.

Nevi Materni (*Mother's Marks*) may be on any part of the body. When merely discolorations of the skin, and not elevated, they are not dangerous, but seldom admit of cure. But when they are elevated and of a purple color, and grow rapidly, an operation becomes needful for their removal, as they might burst, and cause so great a loss of blood as to prove fatal.

Distortions of various parts of the body, as Club-foot, &c., are not uncommon. They are to be treated by careful bandaging, &c., under the direction of a surgeon.

Hydrocele is a collection of water in the bag of the male infant. It is generally to be cured by a lotion of muriate of ammonia and water; but if the fluid is not dispersed by these means, it (the bag) will require puncturing in after life to let out the fluid.

CHAPTER XXIV.

DISEASES OF CHILDREN—*Continued.*

On some Cutaneous Affections.

STROPHULUS INTERTRINCTUS, or RED GUM, is a papular eruption of a vivid red color on the face and neck of young infants, and somewhat resembles measles; but there is no cough or fever. It is of little consequence, and arises from irritation of the bowels, and calls for a dose or two of magnesia. The child, during its continuance, should not be exposed to cold.

STROPHULUS ALBIDUS, or WHITE GUM.—This attacks older children than the former. It generally comes on after exposure to the sun, and has been mistaken for itch. It is a number of minute white specks on the neck, face, and breast. It requires no particular treatment.

STROPHULUS CONFERTUS AND STROPHULUS VOLATICUS.—These are teething rashes. They consist of papulæ (or pimples) so closely together as to form one patch. These patches vary in size from a sixpence to a crown piece, and are generally on the face and arms; if on the body, the papulæ are larger and flatter, and surrounded by inflammation, and at a distance look

like measles, and, as they are sometimes preceded by sickness, have been mistaken for that disease; but there is no cough, sneezing, &c., nor much fever. Gentle laxatives of magnesia and rhubarb, or senna and manna, are all that is required.

Strophulus Candidus.—The papulæ are paler than the surrounding skin, and of a smooth and shining appearance. It has been taken for itch, but it is not itchy. It comes out all over the body when teething, or occurs after some acute disease, and is then a favorable sign.

Eruptions almost endless attend teething, but are of little consequence if unattended by fever.

Infants who have artificial nourishment or bad milk are subject to troublesome successive crops of inflamed pimples, which slowly gather and burst, and form brown scabs, which fall off. They may be on any part of the body, and sometimes are large enough to be called boils. The color of these boils differs according to the strength of the infant: in weakly infants they are purple; in stronger ones they are red. This eruption, called *Icthyma Infantile*, requires better diet or a new nurse, and great attention to the bowels, and removal to the country. This eruption may arise, on the other hand, from gross feeding. In this case, lower and plainer diet, and purging, will effect a cure.

Pompholyx appears during teething. It consists of a number of vesicles or pimples of different sizes

on the belly, ribs, and thighs, which contain an acrid water. These vesications are most common in summer. Lory considers them to be produced by the heat of the sun: they require no medicine, but the water should be let out with a small needle.

Pemphigus is a disease somewhat similar in appearance to the above, but is much more serious, and it attacks weakly infants soon after birth. The vesicles are at first small, but become large and oval, and the contents tinged. They are surrounded by a livid halo, and when broken the part ulcerates, and the ulcer spreads. The disease is attended by fever, sometimes with *Apthæ* (thrush), and is always very dangerous, and, under the best plans of treatment, frequently fatal. Medical advice is of course indispensable.

INTERTRIGO OR CHAFING.

This is a very fine rash which appears where there are folds of the skin, as in the bends of the elbows, armpits, or groins, or on the neck of fleshy infants. When neglected the skin often becomes very red and sore, or a watery ichorous fluid is more or less copiously poured out, which, in drying, agglutinates the dress to the part.

This disease requires great care. The part should be carefully washed several times in the day with soft warm water, with milk added, or one or two teaspoonfuls of pulverized borate of soda (borax) may be

dissolved in half a pint of soft water, and the part washed in this solution (warm) several times daily. The washing should be done with a soft linen rag, and after each washing, the part should be carefully dried and dusted over with violet powder or finely pulverized starch.

An ointment made by mixing ten grains of finely pulverized sulphate of zinc and one ounce of simple cerate may be applied two or three times daily, if necessary.

Lepra, *Lepra Alphoides* (scurvy spots or ringworm). The appearance of this disease is well known; it is very obstinate, perhaps contagious. The ointment of the nitrate of mercury, one drachm, simple cerate, seven drachms, mixed, is a good application, along with frequent ablution of the part; and the use of a lotion, as sulphate of zinc, twelve grains, rose water, one ounce, to be applied three or four times a day. The creosote ointment applied three times a day often effects a cure.

Erysipelas (St. Anthony's fire) sometimes affects infants, and when it attacks the head, face, navel, or genitals, is highly dangerous. There is fever, and the part affected is red and hot, with a soft and diffused swelling; and the skin feels sometimes thick or brawny, and vesicles form on it. The redness disappears on pressure with the finger, but immediately returns. Medical assistance is required.

SORE EARS.

If neglected or mismanaged, a slight sore occurring behind the ear may become large and very difficult of cure. A copious, offensive, and irritating discharge may cause the whole ear to become inflamed, swollen, and dreadfully painful.

To dry up or suddenly heal these sores during active dentition might produce the most serious consequences; but they are not on that account to be neglected; they should always be kept as clean as possible by frequent washings with tepid soft water, milk and water, or a decoction of poppy heads. In this way they may be prevented from spreading, and from becoming as painful as if left unwashed.

If necessary, the hands must be muffled to prevent the child from scratching the sores. At night, care should be taken that they shall not become heated by the lying upon the pillow.

The cure is not to be effected by local applications, but by remedies adapted to improve the general health of the system in each individual case. One of the measures will be the keeping the bowels in a loose state by mild remedies. Severe medicines are not called for, and the parent must be content to have the cure effected by very slow degrees.

MILKY SCALE.

This eruption occurs during the period of teething. At first a number of small, yellowish pustules appear upon the scalp, forehead, or temples, always upon a bright red surface. Thick scabs, of a greenish yellow color, are soon formed, and a thin, offensive fluid oozes out from beneath them. If the disease extends down upon the face, it naturally causes much uneasiness, if not unnecessary alarm, in the mind of the parent. It is not contagious; and, under judicious management, its disappearance may be hoped for in the course of a few weeks. It never leaves any permanent marks.

The *Tooth Rash* has, to the common observer, a very similar appearance to the Milky Scale. It is, however, a much milder disease, and the eruptions are more liable to appear upon the body, arms, and legs.

Parents can not be too earnestly cautioned against the adoption, without competent medical advice, of any measures intended to "dry up" and cure these eruptions. Inflammation and dropsy of the brain, or "water in the head," and fatal diarrhea, have again and again been the result of such ill-advised proceedings.

The cure must be effected *very gradually*, and for the most part by correcting the state of the general health through the use of appropriate remedies. What these remedies shall be will depend very much upon

the state and circumstances of each individual case, and must be pointed out by the attending physician, whose directions should be attentively, carefully, and patiently followed in each and every particular.

It may not be improper to mention, however, that the excessive irritation may often be greatly relieved by repeatedly washing the affected parts with a warm decoction of poppy-heads, and afterward powdering the surface with finely pulverized starch. A fretful, mournful cry, which has lasted for hours, will frequently be subdued in a few minutes by these means, and tranquil sleep induced. Sometimes the application of fresh cream will give great relief, and at all times washing away the acrid secretion with warm milk and water will contribute greatly to the comfort of the child. But, in regard to all these things, first seek competent advice, and in all things follow it.

NETTLE-RASH.

This affection is not very unfrequent in young children, particularly during teething; and although very unimportant, it sometimes appears so suddenly and extensively as to occasion considerable alarm to the mother. The child is put to sleep perfectly well, and after a time awakes very restless, and perhaps screaming. Upon examination, its body and limbs are found covered with raised patches or wheals of irregular shape and pale color, resembling those caused by the sting-

ing of nettles, and accompanied with excessive itching. This is most likely to occur in very hot weather.

It is generally connected with acidity of stomach and derangement of the bowels. This is to be corrected by exhibiting some mild aperient in a dose suitable to the age of the child.

To relieve the extensive itching and heat, a tepid bath should be resorted to daily so long as the eruption lasts, and from time to time the parts should be gently but well rubbed with flour or fine starch powder. In four-and-twenty or eight-and-forty hours after the full operation of the medicine, the rash, in most cases, will have disappeared.

DANDRUFF.

Scurf on the head—dandriff, as it is called, but properly dandruff—is well known in the nursery, and frequently very troublesome. This affection is most common in children possessing a delicate skin and fair complexion. If properly attended to when first perceived, it is not difficult of removal. Close attention to cleanliness, thoroughly washing the head every morning with distilled vinegar, and a carefully regulated diet, will frequently be sufficient for its cure.

Another method of getting rid of dandruff in its mild form is adopted by some, and it is a very good one. An egg is beaten up, well rubbed into the hair, and afterward thoroughly washed out with plenty of tepid

water; the head is then dried, and a little almond oil applied.

SCABIES OR ITCH

is characterized by an eruption of distinct, pale rose-colored pimples, most of which are pointed, having their summits filled with a transparent fluid like water. In severe cases these vesicles (as these collections of water are called) enlarge, and the watery fluid becomes thicker and of a milky white color, or they are destroyed by friction, and leave small red spots. They cause a most distressing itching, which is increased by warmth, especially at night. The eruption is apt to commence and be most severe between the fingers and at the bends of the joints, where the skin is thinnest, *but not upon the face.*

It may almost always be traced to infection, and makes its appearance in five or six days after exposure. It is caused by a minute insect, the *acarus scabies*, which may be seen by means of a good microscope.

Sulphur ointment is an old and sure remedy for this disease, but it is very unpleasant. A better remedy is found in the iodide of potassium. It may be used as a wash, but better as an ointment. You can get the ointment of the iodide of potassium from your apothecary, or you may make it yourself.

Take one drachm of the iodide, finely pulverize it,

dissolve it in one teaspoonful of warm water, and then mix this with one ounce of lard.

All the parts affected should be anointed with this once or twice daily for a few days. This alone will effect a cure very speedily in most cases, but it will be necessary to continue the use of it for some time to prevent re-attacks of the disease from the insects which have got upon the clothing. The clothing should, however, all be changed; this will render the recurrence of the disease less likely.

In addition to the ointment, I am accustomed to prescribe the iodide internally.

Iodide of potassium, one drachm; water, one ounce. Mix these, and let ten drops be taken in sweetened water two or three times daily.

VACCINATION.

That vaccination, if properly attended to, will afford entire protection from the small-pox, is quite certain. In order to secure this happy result, however, it is now known to be necessary that the individual should be vaccinated, not only in early infancy, but the operation should be repeated about the age of puberty, and perhaps once in eight or ten years in after life. If this is done, no one need fear the contagion of small-pox.

The age and condition of the child.—The most favorable time for vaccinating an infant is between the age of six weeks and four months; a period that is

prior to the irritation of teething, and also subsequent to the extreme irritability of first infancy. Should, however, small-pox be very prevalent, and in the near neighborhood, rather than expose the infant to its contagious influence, it should be vaccinated at once.

The child, when operated upon, should be as far as possible in perfect health. If disease be present in the system, if it be the period of dentition, if the bowels are at all disordered, or if there be any eruption on the surface of the body, vaccination should be postponed, unless from the pressure of some extreme necessity. If, however, it be positively necessary, from circumstances, to vaccinate during the presence of a chronic eruption, there is no objection to this, for it is not unlikely that the child will be benefited by the introduction of the vaccine disease; but on some future occasion the vaccination ought to be repeated, in order to test the efficiency of the former trial.

The appearance and progress of a genuine vaccine vesicle.—If the vaccination has been successfully performed upon a healthy infant, the puncture on the *second* day may be felt elevated; on the *third* or *fourth* a small red pimple is to be seen, and if examined with a magnifying glass, surrounded by a slight efflorescence; on the *fifth* day a distinct vesicle becomes apparent to the eye, circular in form, having an elevated edge and depressed centre; on the *eighth* day it appears distended with a clear lymph, is either pearl-col-

ored or slightly yellow, and is at its greatest perfection. On the evening of this day *an inflamed ring* begins to form around the base of the vesicle, which continues to increase during the two following days; it is circular in form, and its diameter extends from one to three inches. It is at its height on the tenth day, when there is considerable hardness and swelling of the subjacent parts; on the eleventh day it begins to fade, generally from the centre to the circumference, sometimes forming two or three concentric rings of a bluish tinge. After the tenth day the vesicle itself begins to decline, the centre first turns brown, and the whole is gradually converted into a hard round scab, of a dark mahogany color. About the twenty-first day this scab falls off, leaving a permanent circular cicatrix, somewhat depressed, and marked with six or eight minute pits. Such is the course of a true vaccine vesicle; and if there be a shadow of a fear lest the vaccination is defective in any one of the above points, especially if the inflamed ring do not appear, the operation should be performed again.

Always suffer one or two of the vesicles, at least, to pursue their entire course untouched; if there be more than two, then lymph may be taken from the supernumerary one, if required for vaccinating others.

Constitutional symptoms and management.—Some children pass through the disorder with only very slight indications of constitutional disturbance, which

is not to be looked upon as by any means essential to the success of the vaccine process. If the constitutional symptoms manifest themselves, it will be about the seventh or eighth day ; the infant will be restless and hot, and the bowels more or less disordered. It is not an uncommon circumstance to find about the tenth day an eruption, showing itself on the extremities of the child, sometimes extending to the trunk of the body. It continues for three or four days ; occasionally until after the vaccine scab has fallen off. This eruption is chiefly met with in children of full habits, in whom numerous vesicles have been raised, which discharge freely.

Internal treatment is rarely required during vaccination, except now and then a mild aperient, such as a teaspoonful of castor-oil. Febrile symptoms, however, sometimes manifest themselves, when it becomes necessary. The chief thing to be attended to in the management is to protect the vesicles, as they enlarge, from injury, particularly from the sixth or seventh day. If, unfortunately, from friction or any other cause, the inflammation and swelling around the pustule should become severe, cold water, or a weak solution of Goulard's extract, or a bread and water poultice, must be applied.

Constitutional inaptitude.—Every effort to communicate the vaccine disease will now and then fail ; the child will not take the vaccination. When a case of

this kind is met with, after a fair number of trials with fresh and active virus, the little patient should be left for a few months in the hope that some change may take place in the system, and then another trial be instituted. Experience has long proved that the predisposition to receive cow-pox is not equally great in all persons nor at all times, and that in some individuals there exists through life an insusceptibility to the vaccine disease. The child of a weak and unhealthy constitution will not unfrequently be found indisposed to take the vaccination, but in this case the inaptitude is temporary; while, on the other hand, when this indisposition is met with in a healthy and robust condition of body, it will most probably last through life. Happily, however, experience has farther shown that in most of these instances the individual is equally insusceptible of the small-pox disease.

CHICKEN-POX.

This disorder is almost confined to infancy and early childhood. The eruption is seldom preceded by any constitutional symptoms, but commences on the shoulders, neck, and breast; affecting almost always the scalp, and also the face, which in small-pox, it will be remembered, never escapes. It is composed from the very first of perfectly transparent vesicles, surrounded by a very slight degree of superficial redness; and when very copious, to employ Dr. Gregory's character-

istic simile, "the body has the appearance of having been exposed to a shower of boiling water, each drop of which had occasioned a minute blister." Crops of vesicles appear in succession for two or three days; and while new ones are forming, the first are beginning to shrivel. The fluid in the vesicles after the second or third day becomes slightly opaque, and the vesicles therefore pearl-like. They form small scabs or scales, drying very quickly and as quickly falling off, leaving here and there superficial marks, which, however, are rarely permanent in after life. The whole course of the disease seldom exceeds a week, and during its progress there is no constitutional disturbance of any consequence: the tongue continues clean, the pulse of natural frequency, the appetite good, and the rest undisturbed. The maternal management will be the same as in the mildest case of measles or other slight disease.

Chicken-pox is a contagious disease, readily communicated from one child to another, and occurs but once in the child's life. It will, therefore, be as much the wisdom as the duty of the parent, whenever any eruption occurs in the nursery which is at all equivocal in its character, to use precautionary measures for preventing the extension of the disease.

BOILS.

These are too well known to require any minute de-

scription. They usually have a whitish conical centre, surrounded by a somewhat hard, reddish base. Every body knows that they are very painful, but it is not so universally known that their progress can be speedily arrested. If, within two or three days from their commencement, or as soon as the nature of the swelling is detected, a small blister just large enough to cover the reddened surface is applied and left on the part till a blister is drawn, the disease will in almost all cases be immediately arrested in its progress, the pain will cease, and the swelling disappear. This is very far better than to allow them to run their very painful course.

If, however, this early period has been neglected, bathing with warm water and poulticing must be employed. Opium or laudanum added to the poultice will tend to relieve the pain. Boils are apt to recur in succession for weeks and months, and are very great plagues, as well as indicative of some derangement of the system. The bowels should be kept in a good but somewhat relaxed state, and very likely other medicines may be required, for which application to a medical man should be made.

CHAPTER XXV.

DISEASES OF CHILDREN—*Continued.*

Disorders of the Stomach and Bowels, Colds, Croup, Hooping-cough, Pleurisy, Measles, and Scarlet Fever.

DISORDER of the stomach and bowels, as shown by *indigestion, flatulence, vomiting, griping, and looseness*, is one of the most fruitful sources of the diseases of infancy. Only prevent their derangement, and in nine instances out of ten the infant will be healthy, and flourish. Experience daily proves that a large proportion of the children who die in infancy are lost from derangement of these organs as the primary cause. There are many causes which may give rise to these affections; some of them appertain to the mother's system, others to that of the infant. All are capable, to a great extent, of being prevented or remedied. It is, therefore, most important that a parent should not be ignorant or misinformed upon this subject. It is the prevention of these affections, however, that will be principally dwelt upon; for let the mother ever bear in mind, and act upon the principle, that the prevention of disease alone belongs to her; the cure, to

the physician. For the sake of clearness and reference, these disorders will be spoken of as they occur: *in the infant at the breast; at and after the period of weaning; and in the infant brought up by hand.*

The most frequent causes giving rise to derangements of the stomach and bowels in the *infant at the breast* are unwholesome breast-milk, irregular nursing, the irritation of teething, and cold or damp.

1. *Unhealthy breast-milk.*—This may arise from the parent getting out of health—a circumstance which will be so manifest to herself, and to those more immediately interested in her welfare, that it is only necessary just to allude to it here. Suffice it to say that there are many causes of a general kind to which it may owe its origin, but that the most frequent is *undue lactation*, a subject to which reference has already been made (p. 319), and the effects both upon mother and child fully dwelt upon. To cure derangement of the bowels from this cause, a wet nurse is the true remedy; if such can not be had, artificial food (p. 187–201).

Anxiety of mind in the mother will cause her milk to be unhealthy in its character and deficient in quantity, giving rise to flatulence, griping, and sometimes even convulsions in the infant. A fit of passion in the nurse will frequently be followed by a fit of bow-

el complaint in the child. These causes, of course, are temporary, and when removed the milk becomes as healthy and sufficient for the child as before. Sudden and great mental disturbance, however, will occasionally drive away the milk *altogether*, and in a few hours.

Unwholesome articles of diet will affect the mother's milk and derange the infant's bowels. Malt liquor that is not sound; salads, pickles, sour fruit, cucumbers, melons, acids, and the like. Too full and luxurious a mode of living, by causing the milk to become too rich, will injuriously affect the child. But this matter has already been very fully spoken of. See pages 147–8.

In the same way, *aperient medicine*, taken by the mother, will act on the child's bowels through the effect which it produces upon her milk. This, however, is not the case with all kinds of purgative medicine, nor does the same purgative produce a like effect upon all children. It is well, therefore, for a parent to notice what aperient acts thus through her system upon that of her child, and what does not, and when an aperient becomes necessary for herself, unless she desire that the infant's bowels be moved, to avoid the latter; if otherwise, she may take the former with good effect.

Again: the return of *the monthly periods* while the mother is a nurse usually affects the properties of the

milk, more or less deranging the stomach and bowels of the infant. It will thus frequently happen that, a few days before the mother is going to be unwell, the infant will become fretful and uneasy; its stomach will throw up the milk, and its motions will be frequent, watery, and greenish; and then, when the period is fully over, the milk will cease to purge. It is principally in the early months, however, that the infant seems to be affected by this circumstance; for it will be generally found that although the milk is certainly impaired by it, being less abundant and nutritious, still, after the third or fourth month, it ceases to affect the infant. Is then a mother, because her monthly periods return after her delivery, to give up nursing? Certainly not, unless the infant's health is seriously affected by it; for she will generally find that as the periods come round, by keeping the infant as much as possible from the breast during its continuance, and feeding it upon artificial food, she will prevent disorder of the child's health, and be able in the intervals to nurse her infant with advantage. It must be added, however, that a wet-nurse is to be resorted to rather than any risk incurred of injuring the child's health; and that, in most cases, partial feeding will be necessary at a much earlier period than when a mother is not thus affected.

The milk may also be rendered less nutritive, and diminished in quantity, by the mother again becoming

pregnant. In this case, however, the parent's health will chiefly suffer if she persevere in nursing; this, however, will again act prejudicially to the child. It will be wise, therefore, if pregnancy should occur, and the milk disagree with the infant, to resign the duties of a nurse, and to put the child upon a suitable artificial diet; if, however, pregnancy should take place before the infant is six months old, a wet-nurse ought to be procured.

2. *Irregular nursing.*—This is one of the most frequent sources of derangement of the stomach and bowels of the child. The infant that is constantly at the breast will always be suffering, more or less, from flatulence, griping, looseness of the bowels, and vomiting. This is caused by a sufficient interval not being allowed between the meals for digestion. The milk, therefore, passes on from the stomach into the bowels undigested, and the effects just alluded to follow. Time must not only be given for the proper digestion of the milk, but the stomach itself must be allowed a season of repose. This evil, then, must be avoided most carefully by the mother strictly adhering to those rules for nursing which have been laid down in the earlier part of this work.

3. *Teething.*—The bowels of the infant at the breast, as well as after it is weaned, are generally affected by teething. And it is fortunate that this is the case, for it prevents more serious affections. Indeed, the diar-

rhea that occurs during dentition, except it be violent, must not be subdued; if, however, this be the case, attention must be paid to it. It will generally be found to be accompanied by a swollen gum, the freely lancing of which will sometimes alone put a stop to the looseness; further medical aid may, however, be necessary. See "*Teething*," p. 335–9.

4. *Cold and damp.*—Of course there are other causes besides those already alluded to giving rise to bowel complaints during this period—causes not cognizable by the mother, however, and therefore not mentioned here. It is right, however, that she should be aware that these affections are sometimes the result simply of impressions of cold or damp, particularly at certain seasons of the year; in the autumn, for instance, when, as is well known, bowel complaints are very frequent. When thus produced, it is important early to seek medical aid, as inflammation is generally the result.

Insufficient clothing, too, is a very frequent cause. See "*Clothing*," p. 166–172.

During the process of weaning, the stomach and bowels are particularly liable to be deranged from the following causes, viz., from weaning too early, from effecting the weaning too suddenly and abruptly, from

overfeeding and the use of improper and unsuitable articles of food, and from the irritation of difficult dentition, either alone or combined with one or more of the above-named causes.

1. *From weaning too early.*—The substitution of artificial food for the breast-milk of the mother at a period when the digestive organs of the infant are too delicate for this change is a frequent source of the affections now under consideration. The attempt to wean a delicate child, for instance, when only six months old, will inevitably be followed by disorder of the stomach and bowels. Unless, therefore, a mother is obliged to resort to this measure from becoming pregnant, or any other unavoidable cause, if she consult the welfare of her child, she will not give up nursing at this early period. But if she should be no longer competent to suckle, and her infant be delicate, a wet-nurse should be obtained; for the infant's bowels becoming disordered, medicine or remedies will avail little without a proper change of food.

The age at which weaning ought to take place must ever depend upon circumstances; the ninth month would be too early for some, the twelfth would be for others. This, however, is spoken of elsewhere (p. 209).

2. *From sudden and abrupt alteration of diet.*—Depriving the child at once of the breast, and substituting artificial food, however proper under due regu-

lations such food may be, will invariably cause bowel complaints. Certain rules and regulations must be adopted to effect weaning safely, the details of which are given in the article on weaning.

3. *From overfeeding, and the use of improper and unwholesome food.*—These causes are more productive of disorder of the stomach and bowels at the time of weaning than any yet referred to. If too large a quantity of food is given at each meal, or the meals are too frequently repeated, in both instances the stomach will become oppressed, wearied, and deranged; part of the food will be perhaps thrown up by vomiting, while the remainder, not having undergone the digestive process, will pass on into the bowels, irritate its delicate lining membrane, and produce flatulence, with griping, purging, and perhaps convulsions. Then, again, improper and unsuitable food will be followed by precisely the same effects; and, unless a judicious alteration be quickly made, remedies will not only have no influence over the disease, but the cause being continued, the disease will become most seriously aggravated. It is therefore of the first importance to the well-doing of the child that at this period, when the mother is about to substitute an artificial food for that of her own breast, she should first ascertain what kind of food suits the child best, and then the precise quantity which nature demands. Many cases might be cited where children have never had a prescription written

for them, simply because, these points having been attended to, their diet has been managed with judgment and care; while, on the other hand, others might be referred to whose life has been hazarded, and all but lost, simply from the want of judicious dietetic regulation. Overfeeding and improper articles of food are more frequently productive, in their result, of anxious hours and distressing scenes to the parent, and of danger and loss of life to the child, than almost any other causes.

4. *Teething.*—The irritation occasioned by difficult teething may give rise to diarrhea at the period when the infant is weaned, independently of the weaning itself, but will be still more likely to do so in combination with the other causes of irritation incident to this process, especially such as have been above named. This matter has, however, been so very fully spoken of in the former pages of this work (see "*Teething*," p. 335–39) that there is no occasion for saying more in regard to it here.

Children brought up on artificial diet are very liable to indigestion and bowel complaints—indeed, none more so; and it is from these affections that so many of these infants perish. When, therefore, it is absolutely necessary, from untoward circumstances, to have recourse to this mode of nourishing the child, the rules

laid down in the section on "*Artificial Feeding*" (p. 187) must be most strictly followed out if the parent would hope to avoid disease and rear her child. And if, unfortunately, these affections should at any time manifest themselves, the mother ought carefully and diligently to examine whether the plan of feeding pursued is in every particular correct, especially bearing in mind that the two causes most frequently productive of disorder in the child are *overfeeding* and the *exhibition of unsuitable food*, the two grand errors of the nursery. These results, however, have already been sufficiently dwelt upon as likely to take place at weaning, and they may, of course, occur to a child who is brought up on an artificial diet at any period.

MATERNAL MANAGEMENT OF THESE DISORDERS.

As must have been already seen, the maternal treatment of disorders of the stomach and bowels chiefly consists in the removal of the *cause* of the disorder; medicine may occasionally be exhibited by the mother, but its use in her hands must be very limited indeed. Unfortunately, the general resource and only remedy of some mothers in affections of the stomach and bowels is an aperient, and a combination of irritating substances is too frequently selected. The primary cause of the disorder is undetected, and, consequently, no measures taken for its removal; but pur-

gative powder after purgative powder is given, the evil being supposed to rest in the bowels alone, and that such means must eventually get rid of it, the mother not once suspecting that the true source of the trouble is to be found in some of the causes above named; that there is some error here, and that, unless this is corrected, the remedies must be worse than useless. The consequence of such a plan of proceeding is usually very sad—a confirmed and obstinate diarrhea but too commonly ensues, and the infant is sometimes reduced to the last extremity.

The removal of the cause of the disorder, then, in a large number of instances of derangement of the stomach and bowels, if effected early, will cure the disease, and without further remedy. But it will be asked, By what method is this cause to be detected? In this way. In all human probability, the primary cause of the disorder is connected with the diet; this is the case in a very large majority of instances. If the child is sick at the breast, ascertain whether the breast-milk is healthy and wholesome, or whether any circumstances exist which may have rendered it otherwise. If nothing faulty is found here, the next question would naturally be, Whether the regulations laid down for suckling have been strictly adhered to? Or, whether the infant is sufficiently old to render it at all probable that a tooth may be irritating the gum? Is the child sufficiently clothed? Is the weaning be-

ing attempted too early, or too suddenly and abruptly? If this is not the case, has the child been overfed, or is the food given of the proper description? Is the child being brought up by hand? Then there is every reason to suspect either that the food is not properly prepared, or that the quality of the food given is not the most suitable, or, that the quantity exhibited is too great; in fact, that the rules laid down for "artificial feeding" have not been strictly observed.

By a mode of investigation like this, any defect or error in the dietetic management of the infant producing the disorder will usually be detected by a careful mother, and its correction alone will, in very many instances, be all that is necessary to remove the symptoms. For example, if *flatulence and griping*, followed by diarrhea, occur *to an infant at the breast;* if, at the same time, it becomes pale, its flesh flabby, its disposition fretful, always crying until it is put to the breast, the nipple of which it grasps eagerly, sucking eagerly, yet never satisfied, for its hunger continues, it is not nourished; if, too, the more it sucks, the more the stomach and bowels are deranged, the more it vomits and is purged, depend upon it the cause of all the evil will be found to be unwholesome milk. No medicine will avail any thing here; the cause must be removed; the best medicine and the true remedy is a breast of healthy milk; and if this is not procured early, there

will be great danger of a diarrhea setting in which may probably prove fatal to the child. Again: if there is simply *vomiting* of the breast-milk almost immediately after the child has been suckled, the milk coming up pure and unchanged, and discharged without any apparent effort, and the moment after the child is cheerful and happy, this will be found to depend upon repletion and not upon unwholesome milk; in fact, the stomach has received too much. This must be prevented in future, not by giving medicine, but simply by removing the infant from the nipple immediately it ceases to draw strongly, the moment it begins to dally with the breast.

If flatulence and griping occur *to the child brought up by hand*, this derangement will generally be found to result from overfeeding: abstinence and diminution of the quantity of the food will generally be all that is necessary here. It will be well, however, for the mother in this case, and she may do it with the utmost safety, to unload the bowels of their indigestible contents by the exhibition of a teaspoonful of castor-oil. A dose or two of this medicine will effectually clear them out, without increasing the irritation or weakening the child, while it will, in most instances, altogether remove the symptoms. If the flatulence, however, should continue, four or five grains of mag-

nesia may be mixed with the last meal at night, and a little warm water thrown up into the bowel as an injection the next morning. Again, if *diarrhea* occurs in a child brought up by hand, if it be not the result of overfeeding, it will very frequently be found to arise from unsuitable diet, or, at least, unsuitable to that particular child; for what will agree with one child often disagrees with another. Alteration of diet will sometimes be quite sufficient for the cure, if this alteration is only made early enough, before any considerable irritation of the stomach and bowels has been induced. Thin arrow-root, made with water (prepared very carefully, or the child will refuse it), should be given for five or six days; the warm bath used every night for the same period; a new flannel bandage rolled round the body, and the child cautiously protected from a damp atmosphere. The arrow-root, upon the cessation of the diarrhea, may have cow's milk added to it. Diarrhea very frequently occurs from the time of weaning to the third year of age, and certainly, in its effects, forms so important a disease, that, unless in the slight form mentioned above, a mother is not justified in attempting its relief.

In conclusion, I would observe, that I do not think a mother justified in attempting more than what has here been laid down for her guidance. It is believed that the few and plain common-sense directions given, if followed, will do much to prevent disease, and even

to relieve it in its milder forms. Again I would repeat, let the mother recollect that to prevent disease is her province, *to cure it is the physician's.*

For bowel complaints of *moderate severity* in children of any age, I know of no other medicine that will meet the necessities of the case so frequently, and at the same time be so safe, as the *Red cordial.* It is prepared as follows :

Take of carbonate of potassa (sal tartar), one ounce. Dissolve this in twelve ounces of water ; then add, of paregoric, four ounces ; of tincture of rhubarb and cardamom seeds, six ounces ; and eighty drops of essence of peppermint.

This may be given in doses from a few drops to a teaspoonful, according to the age of the child, and repeated after each stool. It should not, however, be given to a child under two months of age, as there is a trifle of opium in the paregoric. It should be given diluted in water sweetened with white sugar, so as to be pleasant to the taste.

But it must not be relied upon to cure all cases. In any case of diarrhea that does not readily yield to the above hygienic measures and perhaps a dose or two of castor-oil, followed by a few doses of this medicine, medical aid should be sought without farther delay.

COSTIVENESS.

The principle to act upon in the management of *the infant's* bowels is this—that they should be kept free, and by the mildest and least irritating means.

If, therefore, they become *accidentally* confined (less than one stool in the four-and-twenty hours), and the infant is suckled, the mother may ascertain whether an aperient taken by herself will render her milk of a sufficiently purgative quality to act upon the bowels of her child. This is the mildest mode of all.

If, however, this does not answer, or is not practicable from the child being fed artificially, then the mildest aperient medicines must be chosen to accomplish this purpose, taking good care not to use more severe and active medicine than the case absolutely demands.

If, however, the bowels of the infant are disposed to be *habitually* confined, it should be ascertained whether this may not be dependent upon its diet. The same food that agrees perfectly well with one child will frequently cause costiveness in another. An intelligent and observing mother will soon discover whether this is the source of the mischief or not. Boiled milk, for instance, will invariably cause confined bowels in some children; the same result will follow sago boiled in beef tea, with others; while, on the other hand, the bowels may frequently be brought into regular order,

and their confined state overcome, by changing the food to other articles of a more laxative nature.

Sometimes children are *constitutionally* costive; that is, the bowels are relieved every third or fourth day, not oftener, and yet perfect health is enjoyed. This occasionally will happen in large families, all the children, though perfectly healthy and robust, being similarly affected. When such is found by a mother to be really the habit of her child, it would be very unwise, because injurious to its health, to attempt by purgatives to obtain more frequent relief. At the same time, it will be prudent and necessary for her to watch that the regular time is not exceeded. This condition seldom occurs to the very young infant.

In CHILDHOOD, if sound health is enjoyed, the diet judiciously managed and sufficient exercise taken, aperient medicine will seldom be required. Errors in diet, a want of proper attention to the state of the skin, insufficiency of air and exercise—in fine, a neglect of those general principles which have been laid down for the management of health, and upon the observance of which the due and healthy performance of every function of the body depends, are the sources of bowel derangements, and particularly, at this age, of costiveness.

I feel assured, however, that some children are more troubled with costiveness than others, from the simple

but important circumstance of their not being early taught the habit of relieving the bowels daily, and at a certain hour. There is a natural tendency to this periodical relief of the system, and it exists at the earliest age; and if the mother only cause this habit to be fairly established in infancy, she will do much toward promoting regularity of her child's bowels throughout life. The recollection of this fact, and the mother's acting upon it, is of the greatest importance to the future health and comfort of her children.

If the bowels are *accidentally* confined at this age, castor-oil is perhaps the best aperient that can be given; it acts mildly, but efficiently, clearing out the bowels without irritating them. The dose must be regulated by the age, as also by the effect that aperients generally have upon the individual. Great care must in future be taken to avoid the cause or accidental circumstances which produced the irregularity.

When the bowels are *habitually* costive, much care and judgment is necessary for their relief and future management. Fortunately, this condition is very rare in youth. The activity and exposure to the air, usual at this period of life, render purgatives unnecessary, unless, indeed (as just mentioned), some error in diet, or some unusual circumstance, render them accidentally confined. Should, however, the foregoing state exist, medicine alone will avail little; there are certain general measures which must also be acted up to, and

most strictly, if the end is to be accomplished. They consist, principally, in an observance of great regularity with respect to the time of taking food, its quality, quantity, and due mastication; regular and sufficient exercise, horse exercise being particularly serviceable; the shower-bath or daily ablution; early rising (the indulgence in the habit of lying in bed always predisposing to constipation); and, lastly, the patient habituating himself to evacuate the bowels at a certain hour of the day. After breakfast appears to be the time when the bowels are more disposed to act than at any other part of the day; this is the time, then, that should be chosen. All these points must be sedulously observed if habitual costiveness is expected to be overcome.

Colic is a frequent complaint with costive children. The infant screams suddenly and draws up its legs, the abdomen feels hard, the child kicks, there is often suppression of urine. The warm bath, and fomentation of poppy-heads, and rubbing the belly with laudanum, together with a clyster of a few drops of tincture of assafetida, generally give relief. The child, if costive, should have a dose of castor-oil, with a drop or two of laudanum, and a drop of oil of aniseed. If the pain is long continued it may produce inflammation, therefore obtain medical assistance speedily.

Marasmus, or *Wasting*.—In this disease there is costiveness alternating with purging; the stools are

fetid and unnatural. There is lassitude, debility, loss of appetite or depraved appetite, bad breath, tumid belly, pale countenance, and swelled upper lip; soon after there is fever, hot skin, thirst, an inclination to pick the nose, and disturbed sleep. The loss of flesh is very apparent. This disease is very dangerous, and is sometimes called "Remittent Fever;" when it arises from worms, "Worm Fever;" and when from irritation of dentition, "Tooth Fever." The treatment is complicated, and can not be trusted to any but *a medical man.*

Fever is a frequent disease in infancy and childhood, but it is generally symptomatic, or produced by some local irritation, such as worms, marasmus, &c., &c.; but in all cases of fever medical attendance is requisite.

WORMS.

The symptoms usually ascribed to worms not unfrequently occur soon after weaning, and during a few of the immediately subsequent years.

Picking of the nose and lips; an offensive breath of a peculiar character, particularly in the morning, attended with loss of appetite for some hours after rising, and perhaps with nausea and vomiting; variable and capricious appetite; a deranged and irregular state of the bowels, attended with griping pain; an enlarged, swollen, tumid, and prominent state of the abdomen;

a short, dry cough of a peculiar character, not easily described, but readily recognized by the experienced; wasting of the flesh; paleness of the countenance, particularly around the mouth; an unusual degree of peevishness, and the occurrence of a remittent fever of a peculiar character, are all symptoms which too many mothers consider as certain indications of the existence and pernicious influence of worms.

But this is not all; feeling certain of their existence, and that all these symptoms (or so many of them as may be present) are *caused by* these animals, mothers are quite too often induced to make use of quack medicines which are represented as being infallible specifics for their removal, and dose after dose is given with a most ruinous degree of perseverance.

The results of such errors are uniformly more or less injurious, and sometimes they are of so serious a character as to lay the foundation of disease which ultimately proves fatal. Physicians are often called to treat cases that have been grievously aggravated by such mismanagement.

It has long since been ascertained beyond the possibility of a doubt, that any one or more, or even all of the symptoms so confidently relied upon by mothers as positive evidence of "worms," may be present when there is not a single worm in the stomach or bowels of the child.

The symptoms, when present, are caused by the de-

rangement or disorder of the digestive organs, and *not by worms.* The worms themselves may or may not exist. Even when present, they seldom have any influence in the production of the symptoms.

The deranged and enfeebled state of the digestive organs is the efficient cause of the symptoms, and this same state also favors the production of "worms."

The *worm fever* above mentioned may be slow or rapid in its attack and progress. When the cheeks are very red, there is a striking characteristic paleness about the mouth and nose. The fever is sometimes very high, and the skin very hot during a part of the day, while during another part it seems to have almost entirely subsided.

Its symptoms are often very alarming to the parents; but, happily, under proper treatment, especially if attended to at an early period, it very seldom proves fatal; but if improperly managed, the result is not always such as is desired.

I have been thus particular, that you may be able to recognize the complaint whenever it may occur. To give such instructions as would enable you to treat it successfully would be impossible; it requires professional attendance.

But I fancy I this moment hear some mother say, "Doctor, what is good for worms? My child is not sick; he does not need a doctor; but he has worm symptoms. What can I do for him?"

This is a very proper inquiry, and one which I have often heard. Children often present a greater or less number of these symptoms, while they do not give any other evidence of ill health to such an extent as to cause the mother to feel justified in calling in *medical* aid.

As the symptoms are caused by some derangement and an enfeebled state of the digestive organs, the first step in our efforts for their removal must be to ascertain the cause of this debility. The next step will be to remove the cause or causes, and the next and last step will be the adoption of proper measures for the correction of any derangements that may continue after the causes which produced them have ceased to act.

If the general health of the child becomes enfeebled by acute disease; by want of sufficient clothing; by indulgences in candies, sweetmeats, confectionery, or pastry; by the protracted use of unwholesome articles of diet, or by want of a sufficient supply of salt or acid, the first thing in the treatment is the correction of any errors that may be operating upon the system.

If there is debility from the effects of recent acute disease, the attending physician will prescribe the necessary remedies.

In other cases, the child is to be *warmly clad. This is very important.* Want of sufficient attention in this respect very often results in what are termed worm fevers, which are always more rife in cool or cold weather than in warm.

He is to be thoroughly bathed from two to seven times in a week, observing the rules mentioned under the head of baths, p. 326. At first the water should be tepid; but the temperature is to be gradually reduced till that which is quite cold may be used. The sea-bath should be used at least once a week by those who can command it. If this can not be had, a tablespoonful or more of salt should, as often, be added to each quart of the water used in bathing.

Regular hours for eating and sleeping are to be enforced; *candies*, *sweetmeats*, *confectionery*, and pastry of all kinds strictly interdicted; and wholesome, plainly-cooked, nutritious articles of diet furnished to the full satisfaction of the child's appetite. The food may consist of bread, with milk, cream, or butter; toast, boiled rice, potatoes, and other articles of vegetable diet, to which may, perhaps, be added once a day, at noon, a small portion of boiled mutton or other animal food, if the child has a special desire for it.

The use of *salt*, in a greater or less quantity, varying very much in different individuals, is essential to the preservation of health at all periods of life. The nursing infant usually gets a sufficient supply in its mother's milk; but after weaning, a small quantity should be added to its food. It is a necessary stimulant to the digestive organs, and the want of it tends powerfully to produce that peculiar state which gives rise to worm symptoms, and to the actual generation

of worms. In Holland there was, in ancient times, a law which ordained that, for the punishment of certain crimes, men should be kept upon unsalted bread alone, as the severest punishment that could possibly be inflicted upon them. The effect was horrible. These wretched criminals were, in consequence of this want of salt, horribly infested with worms, and soon died.

The child should also be furnished with *acids*, such as lemon-juice or vinegar, if he has a special desire for them. I have often found these of invaluable service.

If, under these measures, he does not speedily recover, a *mild* cathartic should be given. It may be one of castor-oil; but a powder of rhubarb and sulphate of potassa is my favorite article in such cases. Procure from the apothecary pulverized rhubarb, half a drachm, and pulverized sulphate of potassa, one drachm: have these thoroughly mixed by rubbing in a mortar. This quantity may be divided into six powders. One of these powders, mixed with sirup or molasses, may be given to a child two or three years old every four or six hours, until it operates upon the bowels two or three times at least. At an older age, larger doses will be required.

After this, one of the powders may be given every second or third night, or in the morning before breakfast, but without the expectation that it will operate more than once, or, at the most, twice during the day.

Some few children are severely nauseated by rhu-

barb, and must have some other medicine. Some will take the elixir proprietatis without trouble, and may do so in sufficient quantity—say half a teaspoonful to a child two years old—and repeated every four or six hours till its desired effects are produced, and then two or three drops may be given every night afterward for some days.

Others will take castor-oil best, and may do so, and this may be followed every day by the elixir proprietatis, in doses of from two to eight drops, as above; or, if spirits of turpentine is not known to be poisonous* to him, or to either of the parents, or any of the relatives, from three to six drops of that may be given, dropped upon a bit of loaf-sugar, every evening.

If these measures and these simple medicines fail to restore sound health, the child is in such a state that the attendance of a physician is demanded. None of the nostrums of the day should be used, nor should resort be had to calomel, or any more powerful medicines than those above named, without medical advice.

Children, as well as adults, are sometimes troubled with "pin-worms." These are *very small* white worms

* There are a very few persons to whom spirits of turpentine is very poisonous, when applied externally or taken internally; but at least 99 out of every 100 children can take it as above recommended with perfect safety.

with black heads, and are found in quite the lower portion of the bowel, where they sometimes cause so severe itching that the poor child can not keep his hands away from the part. Their presence is not usually attended with the ordinary symptoms of worms in any appreciable degree. In girls they have been known to find their way out of the bowel into the other passage, where they have produced the most severely painful effects for the time being, but never, that I know of, any permanent harm.

They multiply with most astonishing rapidity. When they exist, there will usually some of them be passed with every movement of the bowels; but when their presence is suspected, and they are not seen on the first examination, the stools should be inspected for quite a number of times in succession.

For the cure, the same course of diet and regimen as above ordered for the improvement of the general health should be pursued.

A few drops of the elixir proprietatis, or a small crumb of aloes or of camphor gum as large as half a small pea, may be swallowed every night; but active physic, when taken, produces only temporary relief, to be followed by an aggravation of the complaint.

Camphor is a deadly poison to these insects, and the best remedy known for their destruction. For use, one drachm of the gum may be dissolved in two ounces of warm olive-oil.

Of this camphorated oil take one, two, or three teaspoonfuls, according to the age and strength of the child, and mix it with the same, or double the quantity of milk; then, by means of a syringe, slowly introduce it into the rectum of the child after he has gone to bed for the night; if encouraged to do so, he will probably retain it till morning, when a very large number of the dead worms will pass off. But it will probably be necessary to repeat the remedy several times, at intervals of one, two, or three days. It is hardly necessary to say that where, in girls, they have transferred themselves to another part, as above mentioned, the application of this remedy to that part will immediately relieve all trouble arising from that source.

COLDS.

Every body knows the symptoms of a "cold" so well that it would be superfluous to describe them.

A few remarks, however, upon the treatment proper to be instituted when a child has "taken cold," may not be out of place.

The feelings first experienced by the patient are those of chilliness, attended with a decided coldness of the feet, if not of the hands. The whole vital powers of the system are *depressed*, and every moment the depressing influences of cold, or even cool air, are continued, this depression is increased.

Now the treatment best calculated to remove this

chilliness, and restore the system to its wonted health, is very simple indeed.

The patient, whether an infant, a child, or an adult, is to be brought into a very warm room, and *very near to the fire.* He should remain near the fire, and the temperature of the room should be as high as can consist with his comfort.

As the mucous membrane of the lungs is more sensitive to the impressions of cold air than any equally large portion of the surface of the body, it is essential that the air breathed should be warm. *For this reason*, it will never do to put the child to bed in a cold or cool room. The warm air must be *constantly breathed*, as well as applied to all the external parts of the body.

This simple remedy, used faithfully until all tendency to chilliness is entirely removed, is incomparably the best specific for a "cold" that I know of. The cure will, in mild cases, be effected in the course of a few hours; in those more severe, it may require two or three days to accomplish it.

In addition to this, however, in severe cases, the same plan as to diet, drinks, the warm bath, and attention to the state of the bowels, as you will find recommended for hooping-cough, should be pursued, especially if a cough attends the other symptoms. When a general warm bath can not be commanded, a warm foot-bath may be of great service.

But, if applied sufficiently early, this one remedy of warm, dry air will almost infallibly effect a perfect cure, without debilitating the system by sweating, or deranging the stomach by any internal remedy whatever.

If from any cause a cure is not effected, and a dry, hot state of the skin, and a desire for cold drinks supervenes, the patient has a fever, and not a "cold;" consequently, the treatment must be such as is appropriate for the fever. Cold drinks must be freely allowed, the temperature of the room lowered to suit his feelings, in a great measure at least, otherwise there may follow severe inflammation of the lungs or other dangerous disease.

COLD FINGERS.

It may to some seem to be too insignificant a matter to write about the pain which some children experience from cold fingers, but I have no recollection of experiencing any pain more intolerable than that which I repeatedly experienced from cold fingers during my childhood.

I mention the matter here simply for the sake of correcting an error which is universally prevalent in regard to the best way to relieve the pain. It is supposed that, if the hands are held in a warm place, the pain will continue, and be very severe for a long time after the fingers have become warm. This is an error which I discovered about twelve years ago. The hands should

be held before the fire, and as near to it as it can be borne, and thus warmed as quickly as possible. As soon as they are thoroughly warmed, so that when the tongue is applied to the roots of the nails the sensation upon the tongue is not one of coolness, the pain will entirely cease, but not before. In this way the duration of the pain may be diminished very much, while its severity will not be in the least increased.

This direction will not apply to the cases where the fingers are *frozen*. In these cases they should be placed in cool water until they become red again at least, and then treated as if they had been burned.

PLEURISY.

The breathing in health is formed of equal inspirations and expirations; the child breathes quietly, regularly, inaudibly, and without effort.

All changes which occur from this healthy standard, however slight, should be early noticed; for many of the complaints of the chest, although formidable in their character, may, if seen early by the physician, be arrested in their progress, but otherwise may get beyond the control of remedies.

If, in addition to some difficulty of breathing, the child is very restless, and almost continually screaming unless held in the arms with its breast resting against the bosom of the parent, and its head resting upon her shoulder, but is comparatively quiet in this position,

medical aid should be certainly called as speedily as possible. In all probability, the child has the pleurisy, is in great pain, and the disease may prove fatal if not attended to judiciously and immediately.

If a physician can not be immediately obtained, the child should be carefully kept in a *warm* room. If the feet are cold, they must be warmed by placing them in a warm bath, or by some other means, immediately; but it will not be advisable to place the whole body in the bath without medical advice.

A mustard poultice, or, in young infants, a warm poultice of roasted onions, made a little more stimulating by the addition of a little mustard, may be applied to the bosom or to the back, or both.

In addition to these measures, from three to ten drops of "hive sirup," in a teaspoonful of warm water, may be given every hour. But in no case should the sending for medical aid be delayed with the hope that these measures will be all that is necessary. If the case is one of pleurisy, it will be very unsafe to attempt to manage it yourself; and if it is not, his judgment is necessary to decide what it is, and to give directions for its proper treatment.

HOOPING-COUGH.

This is a disease which most persons experience during childhood. It is very evidently contagious, and seldom affects the same individual but once.

It commences with the symptoms of a "common cold," which continue about five days. In due time the cough changes its character, and assumes the convulsive form which distinguishes the disorder. It occurs in paroxysms, which recur more or less frequently, according to the severity of the disease, and are generally more severe during the night than in the daytime. During a paroxysm, the expirations are made with such convulsive violence, and repeated in such quick succession, that the child seems in danger of suffocation. The face and neck become swollen and purple, and the eyes prominent, injected, and full of tears. The inspirations, particularly toward the close of the paroxysm, are attended with a peculiar noise or "whoop," from which the disease has derived its designation. The paroxysms are frequently terminated by vomiting.

The disease having continued at its height for one, two, or three weeks, naturally begins to decline in severity, and in due time disappears. Relapses, however, from errors in diet, or exposures to cold, or other imprudences, are of frequent occurrence, and may take place several weeks after the health has appeared to be perfectly restored, particularly during the cold season of the year.

The management of this disease in mild cases is very simple. During the first two, three, or more weeks, that is, until the severity of the disease has

very much abated, the child should be constantly kept in a warm and equable temperature, at night as well as by day. The thermometer in his room should stand as high as 74° or 75°.

His diet should consist of the lightest articles of food, and these should be given only in small quantities, with such simple drinks as water, toast-water, apple-water, or molasses and water. These, or other similar drinks, may be freely allowed. A warm bath will be serviceable, if followed by brisk friction of the whole surface with a warm flannel, and immediate confinement to the bed for the night.

The bowels are to be kept in a loose state by mild measures. For this purpose, a mixture of molasses, of coarse quality, with a greater or less quantity of castor-oil, is a very excellent remedy, and a very popular one in some portions of the country. A table-spoonful of the oil is added to and intimately mixed with from two to eight or ten of molasses, and the child allowed to eat as much of it as he pleases. The taste of the oil is entirely concealed, and most children will gladly take enough to secure the object desired. In many instances, the liberal use of molasses of this quality, without any addition of oil, will be sufficient.*

* Where there is any difficulty in inducing a child to take aperient medicine, *castor-oil biscuits* may be occasionally resorted to with advantage. They may be made in the following manner, viz.: Take a quarter of a pound of flour, two ounces of moist sugar, a small quantity of mixed spice finely pulverized, and, with an ounce and a half of

The popular impression that a child with the hooping-cough should not be permitted to stay within doors, but should, from the first, encounter all the ordinary exposures to which he has been accustomed, is very erroneous, and often leads to practices which result in the establishment of severe disease.

After the severity of the disease has been upon the decline for some days, and the child appears entirely recovered, excepting during the paroxysms of coughing, however, then, and not till then, he may experience very great benefit by being taken out of doors, and engaging in his accustomed exercises and exposures. To keep him confined longer would be decidedly injurious. Sometimes, if the cough continues some weeks, a change of air and scenery, by taking the child away from home, particularly from the city into the country, effects great good.

In more severe cases, especially when the disease is attended with any considerable loss of appetite and fever, or with shortness and some difficulty of breathing, professional advice becomes of importance, lest severe inflammation of the lungs or some other affection shall become seated, and perhaps prove fatal.

castor-oil, make the whole into the consistency of pie-crust. After rolling out the paste, divide into ten cakes, and bake quickly. Each cake will contain rather more than a tea-spoonful of oil, and one or more may be given, according to the age of the child.

By adding a proper proportion of ginger, and making use of molasses instead of the moist sugar, castor-oil gingerbread-nuts may be made.

CROUP.

The cough and other symptoms of this disease are so peculiar, that no person who has once witnessed can ever forget or mistake them.

The first symptom is often a rough cough, with perhaps other indications of a cold exhibited in the evening, after the child has been exposed to a cold and damp atmosphere.

But more generally the first symptom is observed near the middle of the night, when, perhaps, without waking, the child coughs. The cough is loud, and has a peculiar ringing sound, as if made through a brazen trumpet. It is a *single cough.* After a few minutes, another single cough of the same character is heard, and then another. If the child is now awakened, the breathing, hitherto natural, soon becomes laborious, and slower than common, as if the breath were forced through a narrow tube; the voice is also hoarse.

This is a formidable disease, and requires prompt and decided measures. The time that may elapse before the arrival of the physician must not be allowed to pass unimproved by the parents. The temperature of the child's room must be raised as quickly as possible to as high as 80° or 90°. This is of the first importance, and must, on no consideration, be omitted or delayed for a moment. This measure alone will always greatly mitigate the severity of all the symptoms.

The child, warmly wrapped in flannel, is to be taken near to the fire, and its feet warmed by it, or by a warm foot-bath.

A strip of soft flannel suitable to be put around his neck should now be provided, and, being wet with a liniment composed of strong aqua ammoniæ, one ounce; olive-oil, half an ounce; laudanum and spirits of turpentine, each one fourth of an ounce, mixed, should be applied. It is desirable that this should quickly redden the skin. If it blisters even, it will do little, if any harm.

If this liniment can not be had, wetting the flannel with aqua ammoniæ, with or without the addition of any one or two of the other articles, will do very well; or, if necessary, a small mustard paste may be applied, and kept on as long as the child will bear it.

In addition to these measures, if the physician has not arrived, and is not momentarily expected, and the symptoms still continue with considerable severity, an emetic should be administered without delay. For this purpose, measure ten tea-spoonfuls of water (warm, if convenient) into a tea-cup. To this add one tea-spoonful of a medicine universally known by the name of "Hive Sirup," and which should always be kept in every house where there are young children. When these are mixed, give the child about one tea-spoonful every ten minutes until he vomits. If the hive sirup is not to be had, the wine of ipecac., or wine of anti-

mony, or the pulverized ipecac., may be given in small doses, until nausea and vomiting is produced.

When some relief is obtained, the temperature of the room may be allowed to fall to 80° or 75°. He should have warm drinks if he is thirsty. Early in the morning, if his bowels have not been operated upon by the articles given to produce vomiting, and the medical attendant has not arrived, a mild cathartic should be given. Half a table-spoonful of castor-oil in a little warmed milk, with sugar, is usually taken without difficulty. The oil and milk should be well mixed. A tea-spoonful of the hive-sirup mixture should also be given once in four or six hours.

In many mild cases, after the adoption of these measures, the child will appear quite like himself through the succeeding day, especially if kept, as he certainly should be, in a warm room, and not allowed to experience the least exposure to a cold or damp atmosphere.

Under these circumstances, the inexperienced parents will be disposed to put him to bed in his own room, as usual; but if this is done, he will be almost certain to have another attack at about the same hour as in the previous night. Even if his bed-room is kept well warmed through the whole night, he will be likely to experience another attack, but it may be less severe, and the same thing may occur for the third or fourth time; after which the disease may,

under careful management, be expected to gradually disappear.

MEASLES.

Measles is a disease in which the mucous membrane of the lungs is very much affected. It is contagious, and usually begins to manifest itself from the ninth to the sixteenth day from the period of infection.

The symptoms first manifested are very like those of a common "cold." There is general languor of the system, lassitude, followed by heat of the skin, perhaps by bleeding of the nose, and vomiting. Sneezing, a watery discharge from the nose and eyes, increased sensibility of the eyes to the light, redness of the eyelids, a frequent dry cough, are all symptoms that usually appear.

After the above symptoms have continued about four days, the rash peculiar to the disease makes its appearance upon the forehead. It is not of the bright-red of scarlet-fever, but a dull red color, and appears in spots, with intervals of skin retaining its natural color between them. On the fifth day the rash extends over the body, and on the sixth it is usually fully out upon the extremities, and is beginning to fade upon the face, and gradually disappears. The difficulty of breathing, weakness of the eyes, and, indeed, all the catarrhal symptoms, remain without

abatement until the eruption begins to subside, when they also begin to abate, and soon convalescence is established.

The cough, however, sometimes continues for some time. This should excite solicitude, lest severe inflammation of the lungs ensue.

In mild cases, this disease requires only confinement of the patient to a warm and equable temperature, with low diet and cooling drinks.

In severe cases, more active treatment will be demanded.

SCARLET-FEVER.

This disease has received a variety of names. It should be known that scarlatina, scarlet-fever, and canker rash are all names for one and the same disease. It is sometimes so mild as to cause but very slight indisposition, and at others so severe as to carry off the patient in the course of a very few hours, and before any febrile reaction is produced in the system.

It is undoubtedly a contagious disease, and seldom affects the same person but once. When the attack has its origin from exposure to contagion, the eruption makes its appearance between the third and sixth day from the time of exposure.

The disease generally sets in suddenly, toward evening, with symptoms of extreme depression, rigors, nau-

sea, vomiting, and pain in the back, loins, and limbs. The body is hot, while the feet are cold; convulsions also sometimes occur on the following day, and sometimes earlier. The eruption appears first on the face and neck, whence it spreads over the whole body in the space of twenty-four hours.

The eruption is of a bright-red color, and feels rough to the touch. It is accompanied with intense heat and a distressing itching sensation. The tongue is red only at its point and edges, while the back and central portions are covered with a thick whitish coat, through which the inflamed papillæ project, giving the part the appearance of a ripe strawberry. These symptoms are usually accompanied with so much soreness of the throat as to render it extremely difficult for the patient to swallow any thing, particularly fluids.

The eruption begins to subside about the fifth day, and generally disappears on the seventh, and with it the other symptoms.

The above are the most common symptoms of the mildest variety. Sometimes there is very little soreness of the throat; and at other times there may be soreness of the throat, but no external eruption.

The symptoms of the severer forms it is wholly unnecessary to describe in a work like this, further than to say that the foregoing symptoms are all increased in severity.

The treatment required in mild cases may be confined to very mild measures. Confinement to a room of an equable temperature, such as is most agreeable to the feelings of the patient, refreshing mucilaginous drinks, acidulated with lemon-juice, and abstinence from food almost entirely, are the most that is required. Care must be taken for several weeks, however, lest the patient take "cold," or by some other means bring on a relapse of disease in some form. The more severe cases will always demand professional attendance.

CHAPTER XXVI.

ON THE PREVENTION OF SCROFULA AND CONSUMPTION.—RICKETS.—HYDROCEPHALUS.

CHILDREN who are scrofulous have often a fine skin, light hair, large blue, melancholy eyes, and a delicate complexion; the veins of the head and other parts are very apparent. Others have the skin darker, and of a rough, dirty appearance; the hair is dark, the upper lip full, and face sallow, and sometimes swelled. When these peculiarities are not strongly marked, a person may pass through life without inconvenience; but when the scrofulous constitution prevails in a great degree, different parts of the body, without evident cause, become deranged and altered in structure, and a slow inflammation in those parts takes place. Scrofula is, perhaps, more than any other evil to which humanity is liable, beset with dangerous misconceptions. It engages a great deal of attention, and its *cure*, when it forces itself into notice, is diligently attempted. But its *prevention* would be far more certain than its cure ever can be, were the popular mind fully informed of its real nature. *Then* we should not only see the de-

velopment of this malady in individuals arrested, but the diffusion of the scrofulous constitution itself in a great measure prevented.

The term scrofula is popularly applied and limited to enlargements of the glands of the neck, formerly designated "the King's Evil." Now it ought to be known that this enlargement is the result of *a peculiar condition of the system*, which may manifest itself in this or any other part, for none is exempt from the liability. If in the lungs, it constitutes consumption, or scrofula of the lungs; if in the bowels, mesenteric disease; if in the joints, white swelling, and so on.

It may safely be defined as a disease of debility, and requires for its prevention or removal the adoption of all those measures that are calculated to invigorate and strengthen the general health of the individual.

The system obtains it in one of two ways. It is sometimes inherited. In the vast majority of individuals it has been transmitted from parents to offspring. This is its chief source. Marriage at too early an age, before the system is developed, or where there is great disparity of years, or of persons who are too nearly allied in blood, and more especially of those who are conscious that scrofula in any of its shapes exists in their families, and perhaps in their own frame, should be avoided.

Or it may sometimes be originated in the healthy offspring of healthy parents by the influence of unfavor-

able circumstances, as insufficient nutriment, habitual exposure to wet and cold, the deprivation of pure air and light, want of natural exercise, and mental disquietude.

The predisposition may exist in various degrees of force. In the same family its features may be more or less prominent; in one child scarcely manifest, in another strongly marked. If it be possessed by either parent, the children must be considered as *liable* to be partakers of the same predisposition; and where both parents are strumous, the children will in all probability be doubly so. The predisposition, as noticed in consumption, will now and then seem, as it were, to pass over one generation altogether, and visit the next with terrible havoc. Various causes tend, doubtless, to give rise to these different results. Much will depend upon the management of the mother's own health during the pregnancy, and, above all, upon the physical and moral management of the child after its birth, and the circumstances by which it is surrounded.

The mode of prevention is certainly the most important part of this inquiry, and seems to me peculiarly appropriate in a work addressed to mothers. The fact is, it is to the *mother's* judicious care and watchful perseverance through the whole of childhood and youth that we must chiefly look for a successful issue to any means that may be suggested to ward off this destructive disease. Most happily, if we can not erad-

icate the tendency, we do possess the means of so invigorating and amending the constitution as to justify the expectation of a freedom from the peculiar disorders in which it is prone to manifest itself. And it assuredly becomes all parents to obtain clear notions upon this matter. If the future happiness and domestic welfare of families are alone considered, the inquiry is a deeply important one; but when it is remembered that, for the most part, this sad condition of health is the parents' gift, the obligation devolving upon the latter, in as far as it lies in their power to counteract its baneful effects, must appear in a strong and painfully convincing light. Not that in the system of management to be adopted there is any wide difference from that which in former parts of this work has been proposed for all children. For the most part it is nearly the same. But in carrying out, it demands a more rigid and scrupulous attention to its details, conjoined with a careful protection of the child from those sources of injury which, upon other constitutions, might fall harmlessly. It embraces attention to *diet*, *clothing*, *pure air*, *light*, *exercise*, *bathing*, *the regulation of the digestive organs*, and, where it is practicable, to climate and residence, and also to education.

Of the Food.—If the infant inherit the strumous predisposition from the father only, the mother being entirely free and of sound health, it may be nursed by her; but if the mother is strumous, wet-nurse suckling

should be resorted to. Great care and caution must be exercised in selecting the wet-nurse; she must be of sound and vigorous health; and the choice should always be left to the medical attendant. The child should be nursed until it is twelve or fifteen months old, by which time it will have passed through some of the dangers, at least, incidental to the period of teething. And for the last six months of this time it will be advisable to have a fresh wet-nurse (in most cases), to secure the perfect nourishment of the system. If a wet nurse can not be had, let the directions already given (see p. 188–201 inclusive) be carefully followed out. This can often be done with the happiest results, especially in the open country.

When the child has got teeth to *masticate* solid food, it must be commenced with caution; at first, small in quantity, of the lightest quality, and only on alternate days. Its effects must be watched. If not found to heat and flush the cheeks, and the secretions of the bowels continue healthy and regular, and the child grows and looks well, these are sure indications that the new diet agrees with him. For the future, the food should always be *nourishing*, but *unstimulating*.

Of the Clothing.—The regulations given at page 166 must be strictly followed out, great care being observed that it is suited to the season of the year, and amply sufficient to protect the child from every sensation of cold or chill; at the same time light in quali-

ty, so as not to overheat and oppress. The neck, arms, and legs must be covered. Their exposure is a frequent source of acute disease, and will very often be found, in a scrofulous child, to cause the glandular enlargements so much dreaded. Flannel should always be worn next the skin, of thinner texture in the summer than in the winter.

The constant inspiration of a *pure air is indispensable.* Here allow me to cite the authority of Sir James Clark, who says, "If an infant born in perfect health, and of the healthiest parents, be kept in close rooms, in which free ventilation and cleanliness are neglected, a few months will often suffice to induce tuberculous cachexia. There can be no doubt," he adds, "that the habitual respiration of the air of ill-ventilated and gloomy alleys in large towns is a powerful means of augmenting the hereditary disposition to scrofula, and even of inducing such a disposition *de novo.* Children reared in the work-houses of this country, and in similar establishments abroad, almost all become scrofulous, and this more, I believe, from the confined impure air in which they live, and the want of active exercise, than from defective nourishment." A striking instance of the ill effects of defective ventilation strongly confirmatory of this view is mentioned in the second volume of the English Poor-Law Reports. The school referred to consisted of 600 pupils, among whom scrofula broke out extensively, and great mortality occur-

red, which was ascribed to bad and insufficient food. The case was investigated; the food was proved to be most abundant and good; and defective ventilation and consequent atmospheric impurity was assigned as the cause. Ventilation was applied; the scrofula soon after disappeared, and 1100 children are now maintained in good health, where the 600, before ventilation, were scrofulous and sickly.

Enough has been said, I think, to prove the extreme importance of thorough ventilation in the apartments of the young, and to induce the reader to adopt the principle where at present it is in any degree neglected; for it may be regarded as a well-ascertained fact, that where systematic ventilation does not exist, it is almost impossible to keep an apartment shut up for any length of time without a condition of atmosphere being produced that must be injurious. How often, where rooms are ill-ventilated, must a mother, on entering the bed-room of her children in the early morning, be sensible of the impurity of the atmosphere, while the occupants are altogether unconscious of it. The lassitude and weariness of children after a night's repose, when they ought to be refreshed and sprightly, is often attributed to indisposition, when its true cause has been simply the breathing through the night the impure air of a close bed-room.

In addition to these means, the windows of the nursery should be thrown wide open before the children come

into it in the morning, and those of the bed-room after they have left it; and, of course, in summer weather, both may be frequently left open during the day, when judiciously managed, with great advantage. No cooking or washing of linen—nothing, in fact, that would pollute the atmosphere, must be permitted in the nursery. Its temperature must be carefully regulated, and never allowed to rise above 70°. Heated rooms make children very susceptible of disease, particularly during the period of teething; and such as are accustomed to immoderately warmed rooms will always, when taken into the cold external air, be much more liable to suffer than others, and during cold and humid weather will seldom be free from coughs and colds. The best mode of warming is a good coal fire. In the winter months, in the case of young children, there should also be a fire in the bed-room, so as to secure a temperature of 60°. Many an attack of inflammation of the lungs has arisen from a delicate child being undressed and put to bed at this period of the year in a room where this precaution has been disregarded.

Light, too, is of the utmost importance. It is, if possible, of even greater importance than fresh air. Confinement in a room through the windows of which the sun never shines, is alone sufficient to produce consumption in many persons.

If possible, the nursery should have a southerly or westerly aspect, command a pleasant prospect without,

and be light and cheerful within. The light of the sun has a powerful influence upon the growth and healthy development of the body; and if children are immured in cheerless rooms, looking into dark shrubberies, or on the back yards and chimneys of a town, their health must inevitably suffer. The influence of light on the vegetable kingdom is known to every one who has observed the bleached appearance of a plant growing in the dark, or corn growing under the shade of a tree, which is always paler and later in ripening than that growing in an open part of the field. Some ingenious experiments were made by Dr. Edwards, showing the influence of light upon the development of animals, in which it was found that those which naturally change their form, as tadpoles, were prevented doing so by its withdrawal. By analogy, we are warranted in inferring that light must materially influence development and health in man; and it is positively found that children deprived of its wholesome and gentle stimulus grow up pale, sickly, and deformed, of which numerous examples may be seen in the dark courts and cellars of all great cities.

Then, again, a dull and confined prospect is a source of gloom to the naturally cheerful and active mind of a child; it should look out upon that which would gladden and refresh it. For the same reason, the walls of its nursery should be surrounded with pleasant and instructive pictures (easily attainable in the present

day), all which would tend constantly, although imperceptibly, to produce a beneficial and happy influence upon health and character.

If the child is born late in the year, he had better not be taken out of doors until the following spring; and if the apartments inhabited are well ventilated and lighted, the confinement will not be injurious.

For the future, when the weather will permit, the more the child is in the open air, the better. The excellent effect of an *out-door life in the country* in the warm seasons of the year upon those who already suffer from glandular enlargements has often been noticed. If practicable, the exercise of riding on a donkey or pony should be taken daily. This will be particularly serviceable where there is too great delicacy to take sufficient exercise on foot; for exercise should at all times be moderate, and stop short of fatigue. Early hours must be observed, and a careful avoidance of vicious and exhausting indulgences. A wisely-ordered moral oversight is of infinite importance.

Such constitutions are peculiarly susceptible to *cold and damp*. Every thing, therefore, should be done to fortify and strengthen the system, and diminish the liability to their impressions. Bathing, properly conducted, will aid us greatly in this matter. Cleanliness is imperative, and must in nowise be neglected.

The infant at first should be washed in warm water in the morning, and a bath, of a warmth grateful to the

child's feelings, may be used every night. After a few weeks, and by degrees, the temperature of the water with which the child is sponged in the morning should be lowered until it can be borne cold. As he grows older, the cold salt-water (artificial or otherwise) plunge-bath may be employed in summer, or the shower-bath, if the system is able to bear the shock, or, what is better still, if the child resides on the coast, he may bathe during the summer months.

If any *derangement of the digestive functions* arises, this must be brought under the notice of the medical attendant. In these children costiveness is apt to prevail, but it will be found generally to arise from a mismanaged diet or from overfeeding. The fact that defective nourishment will develop scrofula sometimes leads into the opposite extreme, and the system, as a consequence, becomes loaded, the digestive organs deranged, and costiveness ensues. The due regulation of the bowels, therefore, is of great consequence, and they should always be watched with great care. If purgative medicine at any time becomes necessary, it should be of the mildest kind, so as to expend as little strength as possible.

The situation of a *residence* is of great moment, and frequently a matter of much practical difficulty. A few months spent in a damp locality by a child predisposed to scrofula is quite sufficient to develop it in one or other of its forms.

If possible, then, avoid for a scrofulous child a dwelling built near water (particularly if stagnant), or near marshes, or one immediately surrounded by or overhung by large trees, which interfere with the free circulation of the air, and cause a state of constant humidity of the atmosphere, except in the dryest weather. Sir James Clark, in his admirable work on Scrofula and Consumption, says: "It is not generally known how limited may be the range of a damp, unhealthy atmosphere; a low situation surrounded by trees may be capable of inducing tuberculous disease in an infant, whereas a rising ground a hundred yards distant may afford a healthy site for his residence."

Great caution will be necessary in *the education.* These children are generally precocious in intellect, which too often leads to an injudicious, and, as it too frequently proves, fatal mental discipline. The long confinement in a badly-ventilated school-room day after day, and the mental exhaustion which hard study induces, are fraught with peculiar danger to strumous children. Sir James Clark, in the work already quoted, remarks: "At no period of youth should education be pushed beyond its proper limits, or the mind be worked above its powers; the welfare of the pupil demands the observance of this rule on the part of the master as well as the parents, more especially when the child belongs to that class of strumous children whose intellects are preternaturally acute. Unfortunately, how-

ever, these are generally the pupils selected by the master to do credit to his establishment. Every means are taken to encourage the premature manifestation of mind, and to stimulate the child to renewed exertions, and thus health, and even life, is often sacrificed at a period of brilliant promise, when the hopes of friends are buoyed up by the fallacious expectation of a harvest which a more rational system of education might have realized."

The evils arising from this erroneous system of education are more prevalent in female than in boys' schools; in the latter the mischief is in some measure counterbalanced by the natural activity of the boy, and the greater amount of open-air exercise which he enjoys than the girl. To quote Sir J. Clark again: he says, "The prevailing system of female education is indeed fraught with most pernicious consequences; at a period of life when the development of the physical constitution demands the most judicious management, young girls are sent to school, in which no other object appears to claim consideration than the amount of mental improvement, or, rather, the variety of accomplishments with which they can be stored. At an early hour in the morning the pupil is set down at the piano or the drawing-table, where she remains in a constrained position, and often in a cold room, till the whole frame, and more especially the lower extremities, become chilled; the brief relaxation during the short

space allowed for meals and the formal walk are insufficient to restore the natural warmth of the system; and it often happens that girls are allowed to retire to their room at bedtime with their feet so chilled as frequently to prevent sleep for hours. * * * * While schoolboys have the advantage of a play-ground, or enjoy their recreation at pleasure in the open fields, the unfortunate inmates of a female boarding-school are only permitted to walk along the footpaths in pairs, in stiff and monotonous formality, resembling, as Beddoes justly remarks, a funeral procession, and wanting nothing to funeral melancholy but sables and the hearse. The consequence is, that the muscles of the upper extremities, and those which are chiefly concerned in the support of the trunk, are rarely called into active play; they do not acquire strength as the body increases in stature; they remain weak and unequal to the task of supporting the trunk in the erect posture. A curved state of the spine is sometimes the consequence; and this, by altering the position and form of the thorax, renders the respiratory movements imperfect; the capacity of the chest is diminished, and the lungs are consequently more liable to congestion, and the diseases which are its consequences. While the natural form of the body is thus destroyed, the derangement of the general health is manifested by the paleness of the countenance, the dry and coarse appearance of the skin, costive bowels,

and cold extremities. In short, all the requisites for the production of struma may be found in a large proportion of female boarding-schools, where the system we have described is pursued." Every physician practicing in a large city can most fully confirm these important statements; and although there are many exceptions to this system, still it is always desirable that the female children of a scrofulous family should be educated at home, where a judicious mental as well as physical training can be more completely followed out.

Such are the principal points comprehended in the management of the child of scrofulous constitution. Experience has fully proved its efficacy. Its more extensive employment would lead to an incalculable amount of benefit to mankind. Terrible as are the ravages of this malady, sweeping off, as it sometimes does, and in the space of a few short years, every member of a large family by that most destructive of all its developments — consumption, it can not be doubted that, as just views of its nature become more widely propagated, and the means of prevention more generally adopted, its prevalence will be largely diminished, and this scourge be less familiar to us. The present state of science, however, seems to show that this happy result must be expected from *prevention* rather than from *cure*.

RICKETS.

This disease generally shows itself between the sixth month and the second year, but sometimes it is found even at birth, and sometimes as late as six or eight years. *The causes* of this disease, and of scrofula, of the nature of which it partakes, are foreign to our purpose. The face of a rickety child is sallow and bloated; the skin is relaxed and flabby; the child is weak and listless; the bones are softened, and can be bent, so that the long bones, as the leg, thigh, arm, &c., become much curved, and their extremities enlarged. The ankles swell first, and the back changes its shape, and the breast protrudes; the bones of the hips approach each other; the head increases much in size, and the belly is hard and large; the appetite is bad or depraved; the bowels are bound, and the evacuations are very offensive; the teeth are late in appearing, are bad, and are soon lost. Amid all this bodily deformity, we frequently find the mind prematurely developed. This disease sometimes proves fatal by producing water in the brain or convulsions; but it is often stopped in its progress by nature or art, and the person lives more or less deformed.

Bad food, bad air, dirt, insufficient clothing, and all causes of debility, call this disease into action, although with every care it is not always to be avoided.

The person thus affected should have very nutritious

diet, country air, sea-bathing, and friction over the whole body for some hours each day. The secretions of the bowels must be enforced by proper and judicious medicines long continued, and the debility prevailing in the system, if possible, obviated. This can only be done by following the prescription of a professional adviser.

TUBERCULAR MENINGITIS.

This is a very insidious and dangerous disease. It sometimes comes on suddenly, and carries the child off in a few days; at other times it is slower, and the disease is protracted to weeks or months. It is divided into acute and chronic. It may appear as a disease itself, or come on in the course of other diseases.

The acute form begins like common fever, but there is frequent vomiting and great pain in one side of the head; often before the attack the child is languid, peevish, and uncomfortable, without any particular complaint; the appetite is bad, and there are frequent sick fits, with vomitings of bile; the bowels are either costive or purged.

The chronic form comes on more slowly; it seems sometimes to be gradually approaching from birth, the child being dull, subject to frequent fits of stupor or drowsiness, and the head enlarges faster than it ought. In infancy we may discover the disease by the unhealthy look of the child and the frequent application

of its hand to the head, which is often larger and feels heavier than usual. In other instances the child is pretty healthy at first, and it is some years before symptoms of the disease appear; at first, the child is duller than usual, there is slight fever and pain in the head, sometimes constant but moderate, and sometimes in fits, like headache, accompanied with sickness and vomiting; will not play much, and soon tires of toys and wishes to lie down; the appetite gradually fails, and food sickens; the body wastes, and the child gets weak.

Whenever a mother observes such symptoms, she should call in medical aid without delay. The medical treatment required is too complicated to admit of even any suggestions respecting it in a work like this.

A mother, however, may do much to overcome a constitutional predisposition to the disease, where it is known to exist in a family, and thus prevent its appearance. She may also assist greatly in promoting its cure when it does occur, by putting in operation all those general measures which have a tendency to promote and maintain the tone and general health of the system, which have been so fully detailed in the article on the prevention of scrofula and other portions of this work. All these measures must be strictly regarded and followed out by the parent. Especially must the condition of the digestive organs be the mother's special care. Costiveness must be guarded against;

and if, at any time, the secretions from the bowels indicate derangement, the medical attendant must be applied to, that appropriate remedies may be used with out delay.

HYDROCEPHALUS.

Where there is water in the head, constituting the disease known by the term *Hydrocephalus*, the symptoms will be almost identical with those above described, with a greater enlargement of the head perhaps, and the same care and course of treatment will be demanded.

CHAPTER XXVII.

ACCIDENTS OF INFANCY AND CHILDHOOD.

ACCIDENTS, more or less serious, are daily occurring to children. Of course, they take place suddenly—in a moment; and, in nine cases out of ten, the parents and attendants, greatly alarmed, know not what to do, or perhaps ignorantly do the very thing they ought not. A few hints, then, for *immediate* guidance and direction in case of need, may not be unwelcome or useless. The principal information, however, which it is proposed to communicate is just that which may be advantageously used before surgical aid can be obtained. A few words under the separate heads will amply suffice to convey all that need be said.

INJURIES RECEIVED DURING BIRTH.

If a labor be long and tedious, the head and body of the child may be bruised and disfigured.

The shape of the head is frequently altered by the compression it has undergone, so that it may be elongated, and measure, from the chin to the back of the head, as much as six or seven inches. This always excites surprise, sometimes apprehension, in the minds

of young mothers. There is no ground for it; it must be allowed to regain its natural shape without interference. It will do this in a few days.

Tumors, or swellings upon the head, are very common. They arise from pressure upon the part during the labor. The only treatment that is required, or safe, is freedom from all pressure, and the application of cold lotions, composed of brandy, or vinegar and water. The swelling will gradually subside. It will be right to direct the attention of the medical man to this circumstance.

The face may be frightfully disfigured from the above cause, exceedingly black, and the features distorted. Nothing is necessary here; in a few days the face will recover its proper appearance.

BLEEDING FROM THE NAVEL-STRING.

Bleeding from the navel-string will sometimes take place hours after it has been supposed to be carefully secured. This will arise either from the cord being carelessly tied or from its being unusually large at birth, and in a few hours shrinking so much that the ligature no longer sufficiently presses on the vessels. In either case, the clothes of the child and the flannel roller must be taken off; the whole cord without delay must be unwrapped, and then a second ligature be applied below the original one (viz., nearer to the body of the infant), taking great care that it shall not cut

through the cord when drawn very tight, but, at the same time, drawing it sufficiently tight to compress the vessels. A day or two *after* the cord has separated, or at the time of separation, bleeding may take place from the navel; the point of the finger should be placed over the part, and pressure steadily applied till medical aid has arrived.

PROTRUSION OF THE BOWEL.

This complaint, when first witnessed by a young mother, often excites great and unnecessary alarm.

The bowel should always be returned as speedily as possible. This can usually be easily effected in the following manner. Lay the child down upon his back, place a pillow under his buttocks, so as to raise them a little, if necessary; then, protecting the protruded part by laying over it a thin piece of smooth and soft napkin wet with warm water or sweet oil, embrace it (thus protected) with the ends of the fingers, and gently and steadily press it upward, with some degree of force, until it slips in, which it will do in the course of a minute or two, if this operation is properly performed. A piece of soft napkin should now be applied, folded up as a compress, and kept in its place by the diaper closely applied.

When an instance of this kind occurs for the first time in a child, it is always wise to call in a physician, that he may prescribe the remedies appropriate in the

case, and point out the course to be pursued to prevent a repetition of the trouble.

As a general rule, the preventive remedies consist in a careful regulation of the bowels by the mildest possible means, so as to prevent either diarrhea or costiveness; the dipping the hips into a cold-water bath for a minute or two (the coldness of the water and the length of time being proportionate to the vigor of the child) every night before going to bed, and then a careful watching of him to prevent his overstraining while sitting on the commode or remaining upon it too long, particularly if the bowels have become in any degree costive.

SCALDS OR BURNS.

The danger to be apprehended from a scald or burn must always be mainly in proportion to the extent of surface scalded, or the length of time the burning body continues in contact with the skin. If they are slight, the application of a liniment made by mixing together equal parts of lime-water and linseed-oil or olive-oil will almost always give entire relief. It may be applied directly to the part, or a piece of soft calico or linen may be saturated with it and applied. More liniment should be applied whenever the smarting returns. Flour, too, is an excellent application.

If, however, the burn or scald is severe, a medical man should be sent for, as they are attended with much

danger, and *especially if on the trunk of the body.* In the mean time, undress the child, but in doing this be very careful that the blistered part is no way rubbed, so as to endanger the breaking of the blister or the tearing of the cuticle: this would increase the danger of the accident. The outer garments may generally be taken off without fear, but the body-linen requires great caution, lest any portion of it adhere to the wounded part: if this is found to be the case, the linen or flannel shirt must, if necessary, be cut away piecemeal, leaving that portion untouched which adheres to and covers the sore. Having done this, apply the liniment above named to the injured part, or cover it with three or four thicknesses of cotton wadding, and so apply it as completely to exclude the external air, or do both; a bandage or something of the kind will best accomplish this object, by keeping the cotton in close contact with the part. The child should now be put to bed. If the scald has been severe, or if not, and the extremities are disposed to be cold or the child to shiver (and delicate children are very prone to be thus affected, even when but very slightly scalded, from the shock which is given to the system), apply something warm to the feet, and give a small quantity of wine and water; and now wait until the medical man arrives.

Burns.—Should the clothing of a child take fire, let it be remembered that the upright posture is obviously not only favorable to the spreading of the flames,

but to their reaching the more important parts of the body, the neck and head. Any motion of the body to and fro gives great advantage to the flames, by bringing fresh currents of air in contact with the burning materials, and it is, therefore, utterly absurd to allow the child to run screaming about. Throw him down upon the floor; keep rolling him over and over upon the carpet; if possible, seize the hearth-rug, or table-cover, or strip yourself of your shawl, and envelop the child in it as closely and completely as possible. In this way you will most readily put out the fire.

With regard to treatment, the same plan must be pursued as in scalds. Undress the child, attending to the precautions given above. Put him to bed. Cover the burned parts with cotton wadding or with the liniment above named, or with both, most carefully excluding the external air. Keep the child warm, and, therefore, if necessary, apply bottles of hot water to the feet, and give wine and water to the stomach; and now wait the arrival of the medical attendant. If neither of the above-named remedies is at hand, you may use instead linen well soaked either in spirits of turpentine, brandy, or even milk.

Two further remarks only are necessary, and which have reference to both accidents. On their first occurrence, or during the progress of the case, the attendants not unfrequently give laudanum to quiet the restlessness of the child; this remedy may be required,

and, if so, the medical man will give it, but never allow an unprofessional person to administer it, as serious results might ensue. Again, it can not be too widely known by parents and friends that when a scald or burn is extensive, or if it is not so, but situated on certain parts of the body, it may give rise to the most serious deformity, and that no efforts whatever of the surgeon can possibly prevent this. It is just to all parties to bear this fact in mind.

SWALLOWING BOILING WATER.

Death from the accidental swallowing of boiling water from the mouth of a tea-kettle or tea-pot is by no means uncommon among young children. Fortunately, however, in the majority of instances, the child is too quickly alarmed by the pain to complete the deglutition of the boiling water, and it is no sooner in the mouth than it is immediately got rid of. But yet the tongue, mouth, and the parts at the back of the throat are scalded, and they become swollen so that the patient seems to be threatened with suffocation, and even the mildest cases are of a fearful character. Upon the immediate emergency you may apply a strong mustard poultice to the outside and front of the throat; and if you can not directly obtain medical help, the application of a leech or two, according to the age, will sometimes be followed by the best effects, causing the breathing to become free immediately after.

FROST-BITE.

The frost should be removed slowly by the application of snow or cold water to the frozen part. It will then require the same treatment as scalds or burns.

BRUISES.

If severe, medical advice should be taken; until that can be had, or if not so severe as to be demanded, the most ready application is lint or linen wet with cold water or Goulard's lotion, the part being kept quiet. If the contusion be large, it may be enveloped in a bread and water poultice, tepid or cold, as is most agreeable to the patient; this relaxes the skin so that it yields more readily to the pressure of blood beneath, and thus diminishes the pain. Should the bruise be severe or near a joint, a few leeches may be used, and afterward a tepid poultice applied till the pain is relieved. When the heat and inflammation have subsided, friction with soap liniment and the application of a well-fitting bandage will remove the remaining discoloration of the skin and support the part.

If the bruised part be the knee or ankle, walking should not be attempted till it can be performed without pain. Inattention to this point often lays the foundation for serious mischief in these joints. The same may of course be said in regard to using any other joint after having been thus injured.

If a child receives a *severe fall or blow upon its head*, its health should be watched for some time, and medical advice taken as to its management.

Jammed fingers, by the shutting of a door or drawer, is often a severe form of bruise. If the end only of the finger is nipped, the nail very soon blackens, and the finger becomes exceedingly painful in consequence of the blood escaping from the small broken vessels, and becoming pent up beneath the unyielding nail.

The most speedy mode of procuring relief is to plunge the finger into water as hot as can be borne. In this way the nail is softened, and yields so as to accommodate itself to the effused blood beneath, and the agony is soon diminished. The finger may then be wrapped in a bread and water poultice. After a few days the effused blood should be let out by scraping the nail with a penknife or piece of glass till it is very thin, and then making a small hole through it.

Jammed toes are to be treated in the same way as jammed fingers.

For slight bruises or bumps upon the foreheads or faces of children, I know of no better remedy than rubbing the part well with dry supercarbonate of soda. This will prevent the dark discoloration of the part as effectually as any other treatment, and it has the advantage of being generally at hand in every house, and is easily applied.

WOUNDS.

These will either be clean, as when made by some sharp cutting instrument, as by a knife, or torn, as by a broken plate, or such as would be produced by a fall on the ground and occasioned by rough gravel. In either case, if the accident be severe, medical aid must be sought. A few plain directions, however, for the management of the lesser forms of accident may be useful.

Take, then, a soft sponge and some cold water, and bathe the wound so as to arrest the slight bleeding which may be going on; or if you have reason to believe, from the way in which the accident happened, that any foreign substances are lodged in the wound, such as gravel, dirt, or glass, take tepid water and freely sponge the part until the wound is clean; but if you find that the foreign matters can not be easily extracted, apply a bread and water poultice; suppuration will ensue, and the particles readily discharge themselves. Such a case, however, demands the surgeon's care, and ought to have it, if possible. Having then cleaned the wound, bring the edges together, and keep them in apposition by means of strips of adhesive plaster laid across the wound. The plaster must, of course, be cut of length and width convenient to the size of the wound—long and wide, or short and narrow, as the wound may be large or small. So dressed, it may

remain for three, four, or more days—in fact, so long as the dressing continues firmly attached and gives no pain; but it will generally become loose about the fourth or fifth day, and if removed, the chances are that the wound will be found healed, or, at all events, the greater part of it, and to the remainder fresh dressing may be applied.

The most important point of all is to know what to do in a case of severe bleeding before the arrival of the surgeon. *Pressure well applied is the remedy.* For this purpose, if the wound is in the trunk, take a piece of lint or rag, double it three or four times, and keep it pressed firmly upon the part until professional assistance is obtained. In the case where the finger or any part of either extremity is wounded, a bandage should be applied over the lint, and tied tightly round the limb so as to keep up firm and continued pressure. This advice is frequently misapplied; rag after rag is heaped upon the part, *but pressure is not made.*

BROKEN LIMBS.

When a child meets with an accident, and it is suspected that a bone is broken from the nature of the complaint he makes and the deformity of the limb, such as its being bent, shortened, or twisted, much immediate additional suffering to the patient and increased mischief to the injured part may often be saved by a little care and management. In lifting

the child from the place where the accident happens, and carrying him to a couch or bed, let it be one person's business to take charge of the broken limb, and, instead of allowing it to dangle loosely, carefully support it in a natural position, and, as much as possible, steady it from all jar or shock. Then do not attempt to undress him, but place the limb upon a soft pillow, in the most easy position, and thus let things remain until the arrival of the surgeon. In most cases the limb can be so placed as to be tolerably free from pain, and if so, there will no special harm occur should his visit be delayed several hours, although it is desirable it should be as early as possible.

SPRAINS.

If a severe sprain should occur, it ought not to be trifled with, but the surgeon consulted, for the consequences are sometimes more lasting than of a broken bone. This observation particularly applies to the sprains of the wrist, knee, or ankle-joint. Even slight sprains, *neglected*, occasionally terminate in the establishment of serious disease, a result which a little care and prudence would have altogether prevented. Again, the cure of these accidents demands not only much care, but much *patience* also, for their consequences, as a stiff wrist, for instance, will require perhaps many weeks before perfect freedom of motion and use are regained.

If the knee or ankle-joint is sprained, put the child to bed; if an upper extremity, this is not necessary; but, in either case, it is *rest*, freedom from all motion of the injured part, that you are to aim at; place the limb, therefore, in that position which secures this object most completely. For some hours foment the part with flannels wrung out in warm water, and at bedtime put on a large and well-applied bread and water poultice. Entire rest, and a poultice renewed about three times a day, are the means to be employed for the next three or four days. Then, if the sprain has been slight, the poultice may be left off, and a bandage applied to give support to the joint; and if it be the knee or ankle, the limb must be used very sparingly and cautiously for some time, and Steers' opodeldoc applied and well rubbed in once or twice each day.

In reference to the poultice, a better and more cleanly remedy is *the water dressing*, which consists in passing a piece of lint or rag twice or thrice round the injured part, and saturating it with tepid water, and then carefully covering the whole with oiled silk; this prevents evaporation, and thus the whole part is kept in a continual soothing vapor-bath. This application is a much less troublesome one than the poultice, and answers equally well.

Although the accident in the first instance may have been thought slight, yet if, after an hour or two's

application of the fomentations, the child complains of much pain, it is always wise to send for medical aid; leeches or other treatment may now be necessary, and delay in the use of such measures might be mischievous.

FOREIGN BODIES IN THE EAR AND NOSE.

A foreign body occasionally gets into the ear or up the nostril of the child. If it be a hard substance, such as a glass bead or a shell, its remaining in a few days will not be of much consequence, and it may probably drop out, unless, indeed, it has been forced in; but if it be a pea, or bean, or seed—indeed, any thing of a kind that can imbibe the moisture of the part, and so become swollen, the sooner it is removed the better, for the longer it remains, the firmer, from its increasing size, will it be fixed, the greater suffering will it give, and the more difficult will be its removal.

"If the pea or shell be *in the nostril*," says Mr. South, "the child should be made to draw his breath in deeply, and then, closing the other nostril with the finger, and closing the mouth firmly, to snort forcibly through that side of the nose in which the substance is lodged; or the child may be made to take snuff so as to produce sneezing. If this be done soon after the accident, two or three efforts usually shoot the unwelcome lodger out. But if this do not succeed, the nose

must be tightly nipped with the finger and thumb above the pea or shell, so as to prevent it getting farther in, and then the eyed end of a bodkin or probe, having been a little bent, must be gently insinuated between the bottom of the nose and the substance, and when introduced sufficiently far, must be gently used as a hook to bring it down. Pushing it back into the throat should not be tried, as not unfrequently so doing only fixes it the more firmly. If a doctor be within reach, it is better at once, if the substance can not be snorted out, to take the child to him, as he will be able to manage the matter better and more readily the earlier he is applied to.

"It is of much greater consequence when any thing has been pushed *into the ear*, as, though the passage is short, its nearly circular form and smooth surface more readily permits its being quickly thrust almost to, or even quite down to the drum of the ear. The passage is also so narrow that it is difficult to get in either the end of a bodkin or eyed probe between the substance and the ear-passage, and not unfrequently, indeed, it is pushed farther in. If it were advisable to attempt the early removal of any swellable body from the nose, it is ten times more so when such is lodged in the ear-tube, nearly the whole of which being very unyielding, the agony which the swelling body produces by its enlargement is extreme. The doctor, therefore, should be immediately sought for.

No syringing with water or any other fluid should be resorted to, as it will excite the pea to swell, and increase the mischief."

CHOKING.

Some children eat much too fast; they bolt their food rather than eat it; and now and then a large portion sticks by the way; sometimes a fish-bone or other bone is swallowed, and is similarly placed; sometimes a metallic body, as money. Now any one of these substances may stick at the back of the throat—in the gullet itself, higher or lower—or may at once pass down into the stomach.

If the first take place while the child is eating, and he appears choking, it is always advisable immediately to thrust the finger and thumb as far back into the throat as possible, and if there be any thing there, to attempt to pull it out at once; while you are doing this, sometimes a violent fit of coughing will take place and expel it.

If the second occur—a child, for instance, eating hastily and carelessly, and, bolting a large piece of meat, it sticks in the gullet—make the child take large drafts of water, and, at the same time, make powerful efforts to swallow; the water will frequently dislodge the food, and both pass down into the stomach together; but if this happy result does not take place, medical aid must be obtained forthwith. If it be a piece of

bone or a pin that is swallowed, and it lodges by the way, if it can be reached, let it be taken out; if not, give the child a crust of bread, see that he chews it coarsely, and then make him swallow it, taking, at the same time, a swallow or two of water, and the chances are in favor of the bone or pin being carried down into the stomach.

Of the treatment of things that pass down at once into the stomach, such as pieces of money, buttons, and many articles of a like kind, which children, playing with, frequently put into the mouth and sometimes swallow, little need be said, for they are seldom followed by any serious consequences. Sooner or later the foreign body passes through the alimentary canal with the food, and is thus got rid of. I may add, however, that in this case it is a very common practice to give repeated doses of aperient medicine; now, unless the bowels should become confined, such a measure is rather injurious than useful.

If, however, any copper or brass articles, or *poisonous berries*, have been swallowed, let some hasty-pudding be immediately prepared, and the child induced to eat as much as possible of it with molasses or a little milk and sugar; wait ten or twenty minutes, and then give him an emetic of either a tea-spoonful of alum finely pulverized, or eight or ten grains of sulphate of zinc (white vitriol); or a few grains of ipecacuanha may be used. These medicines may be given either in molas-

ses, sirup, or dissolved in sweetened water. In this way the child will be made very soon to throw up what he has just eaten with the offending substance enveloped in it.

Of substances getting into the *windpipe* it would be useless to say any thing to the unprofessional reader.

STINGS OF INSECTS.

Children are perhaps more frequently stung by *bees* and *wasps* than adults. The first thing to be done is to examine the wound with a lens, and, if the sting is still in, to extract it with a pair of fine forceps or tweezers. If only part is left, this will be attended with difficulty, but by gently squeezing the sides of the wound it may sometimes be pressed out. Then the best remedies to apply to the part are either tincture of iodine, aqua ammoniæ (spirits of hartshorn), turpentine, hot vinegar, spirits of wine, eau de Cologne, or olive-oil. If none of these are at hand, cold water simply will give great relief, if used continuously. If the wound should look very angry or become very painful, a bread and water poultice, or the water dressing, will be the best application. Subsequently, if any œdematous swelling remains, a piece of soft linen soaked in soap liniment may be used.

For the bites of *bugs*, *fleas*, or *gnats*, the best remedy is eau de Cologne, tincture of iodine, or aqua ammoniæ, so as to convert the itching into slight smart-

ing; or the part may be smeared over with olive-oil.

POISONS.

In more instances than one the attendants upon a sick child have given a lotion containing poison instead of the medicine, and cases have also again and again occurred where children, finding bottles in a closet or elsewhere, have, out of curiosity, swallowed laudanum, oil of vitriol, and the like. The alarm and distress suffered by the parents, having no immediate guidance or help, may be easily imagined. To know what to do on the spur of the moment is not only in all instances a source of the greatest relief, but in some cases, from the rapidly fatal operation of the poisons, a matter of life or death. Just a few directions, therefore, suited to such emergencies, will not be out of place, the more particularly as every one must feel that the more universally such information is diffused the better. Presuming, then, that the medical man will be sent for without delay, the following means may be employed until his arrival.

Treatment.

Laudanum in any form.—The great object is to remove the poison from the stomach. Give an emetic —sulphate of zinc (white vitriol) is best (ten grains); or, if you have it not, ipecacuanha (ten grains), or a

tea-spoonful of pulverized alum, or tartarized antimony (one grain every quarter of an hour). Repeat the dose until copious vomiting is excited. Keep the patient constantly roused, walk him up and down the room, drag him along, and do not listen to his entreaties to be left to repose. Dash cold water over the head and face occasionally, and also put the feet in warm water. When the opium has been completely removed, coffee may be given. It is an excellent antidote.

Sulphuric Acid (oil of vitriol)—*Nitric Acid* (aqua fortis)—*Oxalic Acid.*—Administer without delay chalk or magnesia, if you have it by you (a full tablespoon to every tumbler of water); but if not, scrape off the plaster from the wall of the apartment, and mix it with water. Give freely one of the foregoing. While this antidote is being prepared, if vomiting is not already free, give an emetic. After the antidote has been freely given, use diluents, such as milk, so as to render the vomiting more easy.

Arsenic.—Empty the stomach by an emetic of ten grains of sulphate of zinc. Give milk both before and after the vomiting has begun, never allowing the strength to be exhausted by the retching, the stomach having nothing to act upon. If you have not milk, flour and water will form a good substitute.

Corrosive Sublimate.—Give the white of eggs beaten up in water, and if eggs can not be immediately obtained, flour and water, or milk.

Goulard's Water.—If the child is not sick, give an emetic—sulphate of zinc (white vitriol) is best.

Lotions and Liniments.—If in doubt about the kind of poison contained in the lotion or liniment, give an emetic immediately, which, ridding the stomach of it, will of itself be generally all that is necessary, since these preparations most frequently do not contain much poisonous matter.

CONCLUSION.

THERE are some other diseases I would gladly speak of, but I have already exceeded the limits prescribed. My object, you are aware, has not been so much to enable you to *treat diseases* as to *avoid* them. To whatever extent I have succeeded in this, to the same extent has a knowledge of them been rendered to you unimportant.

For your guidance in all cases of sickness, I can not now do better than to copy the language used by Dr. John Caius in "a short counsel," designed to teach his readers the best means for protecting themselves from the devastating ravages of the sweating sickness, and published in London by him in 1552—just three hundred years ago. If attacked by disease, he says, "I remytte you to the discretion of a learned manne in phisike, who may judge what is to be done, and how, according to the present state of youre bodies, nature, custome, and property; age, strength, delyghte, and qualitie; tyme of the yeare, with other circumstances, and thereafter to geve the quantitie and make diversities of hys medicine. Otherwise, loke not to receive by this boke that good which I intend, but that evel

which, by youre owne foly, you vindiscretelye bring. For goode counseil may be abused. And for me to write of every particular estate and case, which be so many as there be menne [women and children], were so greate almost a business as to numbre the sandes in the sea. Therefore, seke you out a goode phisician, and knowen to have skille; and at the leaste, be so goode to youre bodies as to youre hosen or shoes, for the wel making or mending whereof I doubte not but you wil diligentlie searche out who is knowen to be the best hosier or shoemaker in the place where you dwelle, and flie the unlearned as a pestilence in a comune weelth. As simple women, carpenters, pewterers, brasiers, sope-balle-sellers, pulters, hostellers, painters, apotecaries (otherwise than for their drogges), avaunters* themselves to come from Pole, Constantinople, Italie, Almaine, Spaine, Fraunce, Grece, and Turkie, Jude, Egipt or Jury; from ye service of Emperourres, Kinges, and Quennes, promising helpe of al diseases, yea uncurable, with one or twoo drynckes; by waters sixe monthes in continualle distillings; by aurum potabile or quintessence; by drynckes of great and high prices, as though thei were made of the sunne, moone, or starres; by blessynges and Blowinges, Hippocriticalle prayinges, and foolysh smokynges of shirtes, smockes, and kerchieffes, wyth such other theire phanticies and mockeryes, meaning nothing els but to abuse your

* Boasting.

light belief, and scorne you behind your backes with theire medicines (so filthie that I am ashamed to name them), for your single wit and simple belief in trusting them most which you know not at al and understand least; like to them which think farre foules have fine fethers, althoughe thei be never so evil favored and foule; as though there could not be so couning an Englishman as a foolish running stranger (of others I speake not); or so perfect helth by honest learning as by deceitful ignorance. For in the erroures of these unlearned reasteth the losse of your honest estimation, diere bloudde, precious spirits, and sweete lyfe, the thing of moste estimation and price in this worlde next anto the immortale soule."

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"THE MOTHER AND HER OFFSPRING."

BY STEPHEN TRACY, M.D.

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